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EDUCATION LEGISLATION, 1967

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HEARINGS

BEFORE THE

SUBCOMMITTEE ON EDUCATION

OF THE

COMMITTEE ON

LABOR AND PUBLIC WELFARE

UNITED STATES SENATE

NINETIETH CONGRESS

FIRST SESSION

ON

S. 1125 and H.R. 7819

TO STRENGTHEN AND IMPROVE PROGRAMS OF ASSISTANCE FOR ELEMENTARY AND SECONDARY EDUCATION BY EXTENDING AUTHORITY FOR ALLOCATION OF FUNDS TO BE USED FOR EDUCATION OF INDIAN CHILDREN AND CHILDREN IN OVERSEAS DEPENDENTS SCHOOLS OF THE DEPARTMENT OF DEFENSE, BY EXTENDING AND AMENDING THE NATIONAL TEACHER CORPS PROGRAM, BY PROVIDING ASSISTANCE FOR COMPREHENSIVE EDUCATIONAL PLANNING, AND BY IMPROVING PROGRAMS OF EDUCATION FOR THE HANDICAPPED; TO IMPROVE PROGRAMS OF VOCATIONAL EDUCATION; TO IMPROVE AUTHORITY FOR ASSISTANCE TO SCHOOLS IN FEDERALLY IMPACTED AREAS AND AREAS SUFFERING A MAJOR DISASTER; AND FOR OTHER PURPOSES

AND RELATED BILLS

AUGUST 14 AND 15, 1967

WASHINGTON, D.C.

Part 6

Printed for the use of the Committee on Labor and Public Welfare

AUTHENTICATED
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EDUCATION LEGISLATION, 1967

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U.S. GOVERNMENT PRINTING OFFICE
80-086 WASHINGTON : 1967

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EDUCATION LEGISLATION, 1967

MONDAY, AUGUST 14, 1967

U.S. SENATE,
SUBCOMMITTEE ON EDUCATION OF THE
COMMITTEE ON LABOR AND PUBLIC WELFARE,
Washington, D.C.

The subcommittee met, pursuant to adjournment, at 10:30 a.m., in room 4200, New Senate Office Building, Senator Wayne Morse, chairman of the subcommittee, presiding.

Present: Senators Morse (presiding), Yarborough, Clark, and Dominick.

Committee staff members present: John S. Forsythe, general counsel; Charles Lee, professional staff member; and Roy H. Millenson, minority clerk.

Senator MORSE. The hearing will come to order.

INTRODUCTION OF REPRESENTATIVE QUIE

We are honored this morning to have as our first witness the Honorable Albert H. Quie, the Representative from the First Congressional District of the State of Minnesota.

Mr. Quie, will you come forward?

It is very helpful to us to have you as a witness. May I say for the record that it has been a great privilege for this chairman and the members of my subcommittee to participate with you over the years in conference with you and your House colleagues as we jointly tried to hammer out on the anvil of compromise, the differences that developed from time to time in the bills passed by the House and the Senate. That is our legislative process. It is a good process and I want this record to show that the chairman of this subcommittee appreciates the cooperation that you have extended to him at all times, while at the same time, carrying out your responsibilities to the House in those instances in which we have been of different points of view. We could not have reached the compromises that were reached if it had not been for your recognition, along with ours, that the job in conference is to do the best that we can to bring forth the best possible bill that reconciles the differences between the two bodies.

I am particularly pleased to have you appear before this subcommittee as a witness this morning.

The Chair has received a copy of Congressman Quie's prepared statement before the subcommittee. It is his understanding that the Congressman is going to discuss it without reading it in full.

The Chair now rules that the Congressman's prepared statement will be inserted in the record at this point and he may proceed in his own way to discuss it as he sees fit, either by summary or by reading it.

(The prepared statement of Congressman Quie follows:)

PREPARED STATEMENT OF HON. ALBERT H. QUIE, MEMBER OF CONGRESS, FROM THE STATE OF MINNESOTA

Mr. Chairman and members of the subcommittee, it is my privilege to appear before you today to discuss briefly why this Congress should give its approval to a series of amendments to The Elementary and Secondary Education Act of 1965.

We have marked the first complete year if implementing the provisions incorporated in the Act of 1965. The time is at hand to assess the successes that this legislation has recorded by way of bringing us closer to the realization of excellent educational opportunities for all of our children—goals to which we as a Nation are firmly committed.

At the same time, we have a continuing responsibility to scrutinize carefully the mechanics and operations of this Act—to evaluate its overall impact with a view of determining what, if any changes, should be made to guarantee that ESEA-authorized programs are equitably and effectively meeting the needs for which they were designed.

Months of intensive review and appraisal—of an on-going dialogue with responsible and concerned educators at the Federal, state and local levels have served to underscore the need for significant changes to eliminate the serious deficiencies which now prevent this Act from providing the type of assistance necessary to strengthen glaring weaknesses in our educational system.

It seems to me that we are confronted with a paradoxical situation. The Elementary and Secondary Education Act of 1965 had, as one of its primary purposes, the improvement of the quality of education offered in many of our elementary and secondary schools. But this vehicle for improvement and constructive change contains formulas and methods for distribution that are in themselves serving to broaden the gap that separates the superior school system from the inferior.

Let us look for a moment at title I—the title that authorizes special programs to satisfy the unique educational needs of our educationally deprived or disadvantaged youngsters. The original intent of this title supposedly was to channel sufficient Federal moneys into *only* those school districts that were experiencing the most acute problems and difficulties in meeting the needs of the educationally deprived. Intended recipients of title I funds were to have been hard-core poverty school districts such as our inner-city ghetto schools and our impoverished rural school systems which, in turn, annually feed these ghettos with swelling numbers of undereducated or uneducated youth and adults.

In practice, however, in excess of 90 percent of the Nation's school districts are eligible for Federal funds under title I. More than 17,000 school districts received these moneys last year. The educational shortcomings that were to have been alleviated or eliminated under title I simply do not exist in 90 percent of our school districts. A more realistic estimate is that no more than 20 percent of our school districts are laboring under severe financial handicaps in meeting the needs of the educationally deprived.

The initial intent of title I of ESEA has been thwarted thanks to eligibility criteria that can be met by virtually every school district in the country. Specifically, if a county has had at least one hundred youngsters between the ages of 7 and 17 from families whose annual incomes total $2,000 or less, the county and any school system within that county, could apply for relief. Poor and affluent communities (and there are few affluent communities that cannot find at least 100 'poor' families among them) have competed for the limited funds available. What has been the overall outcome? Seventeen thousand school districts have made application for and been awarded title I funds—including the most affluent and the most impoverished. Communities well able to finance top-quality schools continue to do so—now with Federal assistance which they do not need, as other schools do. Communities with low tax bases and dwindling revenues continue to operate substandard educational systems. Their needs are still great and remain largely unmet. In short, we have failed to concentrate title I funds

where they have been most urgently needed. Rather, we have seen them widely and thinly distributed—with the net improvement negligible. Even if the full $2.44 billion were appropriated for title I, instead of the $1.2 billion requested by the President—it still represents an investment which must be concentrated in the areas of greatest need in order to have any appreciable impact.

The question then arises as to how we can allot title I funds so as to guarantee the maximum impact in areas of greatest need. The present Act falls short in providing meaningful or viable guidelines to assure that the desired results will come to pass. One of the factors taken into consideration in the awarding of title I moneys is the number of school-age children from families with an annual income of $2,000 or less. Where do these statistics come from? They are derived from 1960 Census data—data that is woefully outdated. The distortions that this data causes are magnified with each year that passes. This data is an unsatisfactory basis for comparison because it fails to take into account the factor of population mobility. National studies give evidence of a substantial influx—which totals in the millions—of persons from rural communities to urban-metropolitan areas. The latter must accommodate the educational needs of these new residents. They must do so, however, without the full assistance for which they should qualify under title I of ESEA. Growing enrollments are simply not substantiated by the obsolete 1960 census figures.

Still another factor accounts for the vast inequities in payments that have been and are being made under title I. That factor is none other than the addition of the number of children of school age from families whose annual incomes are more than $2,000 derived from aid to dependent children payments. Because the States support AFDC at varying levels, thousands of these children are included, for title I allotments, in New York, Illinois, and California while thousands in similar or worse economic straits are excluded in Mississippi, Texas, and Alabama . . . because these States support AFDC programs at a much lower level.

Having counted the number of "poor children"—based on outdated 1960 Census statistics and having added to that number the children from families with annual incomes in excess of $2,000—derived from AFDC payments—the total so counted is then multiplied by one-half of the State's average per-pupil expenditure for education. Here we introduce the final ingredient in a formula that produces bizarre results. This final factor clearly works to the disadvantage of those States which are able to spend less per pupil—the same States which are in greatest need of the assistance that could and should be forthcoming under title I. We have, in a word, a situation that finds the rich getting richer while the poor are getting poorer. Surely, there are none among us today who could honestly say that this was the intent of the Congress when it gave its approval to The Elementary and Secondary Education Act of 1965.

Even if we compare title I allocations for what appear to be comparable, neighboring Northern industrial States, we arrive at results that defy rationalization or justification. For example, according to the 1960 Census figures, New York had 375,000 school-age children from families having less than a $3,000 annual income. Pennsylvania claimed 323,000 such children. Using the number of poor as the basis for payments, it would be reasonable to assume that Pennsylvania's allotment would be approximately that of New York. This is not the case. New York's allotment under title I is $147.3 million as opposed to $59.9 million granted to Pennsylvania. In other words, New York's share of title I moneys is two and one-half times greater than Pennsylvania's.

We might take another case by way of illustration. Texas, with twice as many "poor children" as New York—some 647,000, is under the present operation of title I, receiving slightly less than one-half as much money as is New York or some $96 million.

Part of the answer, of course, is that the State average per-pupil expenditure for education varies widely. In New York, it is $786.28, in Pennsylvania—$500.96, and in Texas—$395.60. But perhaps the greatest factor responsible for these enormous differences in State allotments is the wholly irrelevant AFDC factor. It so happens that 50,000 of the poorest children in Pennsylvania and 250,000 of those in Texas cannot be counted at all under the present Act because they are not on Aid For Dependent Children rolls.

We have missed the target because we have been falsely equating "poor" with "educationally deprived." Moreover, we have falsely assumed that a small number of "poor children" constitutes or represents an educational need. We overlook the fact that a child from a low-income family may be attending a first-

rate school system. This child is no more disavantaged, in educational terms, than is any other child. While we have been able to define poverty on a national basis as falling below a certain annual level of income, we have not yet been able to devise a single, nationally applicable definition for educationally deprived or disadvantaged. This determination can be best made at the local and State levels. Our responsibility at the Federal level is one of adopting an equitable formula for apportioning funds among the States on the basis of relative need.

In the amendment that I offered, the distribution formula now used in title III of the National Defense Education Act would have been applied. This formula would have replaced four separate allocation formulas employed under the present Act and would have awarded a block grant to each State based upon the number of school-age children and the personal income per child in that State. The overall result would have been one that favored the low-income States—those States least able to afford quality education for their students.

To each of the States would have fallen the responsibility of developing a comprehensive State plan designed to distribute these funds to those school districts experiencing the greatest needs in providing quality education to their students.

Some would argue that many States have, in the past, failed to determine their overall needs. But this does not argue that they are incapable of so doing. Very often failure at the State or local level to deal effectively with special problems can be ascribed to the fact that their resources are strained in carrying on a general program of education which, for all of its shortcomings, is still the best in the world.

I, for one, am confident that each and every State—subject to the approval of the U.S. Commissioner of Education—could intelligently identify its areas of greatest need for the additional funds made available under ESEA.

What is more, the very act of identifying those areas of greatest need for this purpose would tend to focus attention on the need for over-all State planing in education—and particularly on planing and action to assist the educationally deprived. We cannot expect to see dramatic or immediate improvements in our Nation's schools until the full resources of each State are brought to bear on these problem areas. The Elementary and Second Education Act of 1965 should be re-designed and re-directed in order to encourage the States in this endeavor.

House adoption of an amendment offered by Representative Edith Green, of Oregon, allowing state education agencies programs providing for supplementary education centers and services, represents a major step forward in the right direction. I would hope that the Senate will vote to retain this amendment to ESEA.

Finally, if Federal aid is to be used effectively, we must develop the concept of a partnership among the local school district, the State educational agency, and the U.S. Office of Education.

As I have pointed out, the Federal Government does not know who the educationally deprived are. It does have statistics though obsolete, that tell where "poor children" reside. The local school district pays little attention to the incomes of parents of children but knows full well those children who are educationally deprived. Only through a State plan—with the State educational agency playing the role of middle man—can Federal aid be brought to bear in those local school district experiencing the greatest needs.

STATEMENT OF HON. ALBERT H. QUIE, MEMBER OF CONGRESS FROM THE STATE OF MINNESOTA; ACCOMPANIED BY CHARLES RADCLIFFE, MINORITY COUNSEL, HOUSE COMMITTEE ON EDUCATION AND LABOR

Mr. QUIE. Thank you, Mr. Chairman and members of the subcommittee.

It is a privilege for me to be here and give you my views on the legislation we have before us. I am accompanied by Charles Radcliffe, minority counsel for the House Committee on Education and Labor.

As you know, I was involved pretty deeply in this legislation with an amendment I had to offer on the House side, and I thought I would come over and express some of my views to you as you deliberate on the markup of the bill.

NONCONTROVESRIAL ELEMENTS OF H.R. 7819

First, I would like to say that if it had not been for one amendment in the bill in the House Committee on Education and Labor in the last minutes before it was reported—that is, the extension of the act through 1969—there would have been no controversy over this legislation other than the question of the National Teacher Corps.

As you know, the National Teacher Corps controversy was subsequently eliminated because it is no longer in this act but was included as a part of title 5 in the Higher Education Act and it now enjoys strong bipartisan support.

So, the rest of the legislation proposed by the administration was without controversy. That is, the extension of benefits for the Indian schools; the overseas schools, provisions for handicapped children and the amendment to 815 and 874.

DURATION OF PROGRAM

However, in the last minutes of consideration by our House committee an amendment was adopted to extend the entire act through 1969. At no time during the hearings had this been a part of the bill before us and, therefore, the testimony before our committee was only addressed to the changes that would be necessary in 1968 and none to the proposed changes in the act for 1969 or beyond.

It was expected that hearings would be held for that purpose. You do have an advantage in your subcommittee now to have a bill before you which proposes to extend it to 1969 and can make your determination based on the knowledge that that is before us.

I think it is wise that in this calendar year, the Congress take action for the extension through the fiscal year 1969 so that the schools might have an opportunity to know ahead of time the kind of legislation which will be before them—and the money that would be forthcoming.

FEDERAL AID—MOOT QUESTION

So, I do not criticize that action. However, the amendment that I had to offer never had an opportunity to be considered in hearings. I believe that from now on, the question of whether Federal aid to elementary and secondary schools should be passed is a moot question. We have Federal aid in the elementary and secondary schools now. It is no use arguing whether you should or should not have it.

I don't expect there would ever be a change in this, no matter what the political fortunes of the Members of the House and Senate might be in the future. I say that for these reasons.

I doubt that we will ever find local school board members saying to their constituency, "Let's no longer take that Federal aid but increase the property tax in order to fund these programs that have been funded heretofore by the Federal Government."

Secondly, I doubt whether we will ever find State legislatures say, "Let's stop that Federal aid to education, and we will raise the income tax and the sales tax or start a new tax in order to fund these programs."

That would not be the case. That is not human nature.

Also, as time goes on, Members of Congress will support this program more and more because of the fact that substantial amounts of money will be expended in their districts. Therefore, Federal aid is here and I would expect we ought to be planning now for a commitment of something like $5 billion in Federal aid to elementary and secondary schools.

LEVEL OF EXPENDITURE

The authorization for 1969 in the Elementary and Secondary School Act amounts to about $3½ billion but I believe there is an acceptance now that once the financial obligations we have in Vietnam are behind us, we ought to be planning for a higher level of expenditure.

TITLE III—STATE ROLE

It is with that in mind that I make these comments about the legislation before us.

I think there are basically three things wrong with the act.

(1) We have corrected on the House side—and we hope for favorable acceptance on your part—provisions dealing with involvement of the State to a much greater extent in title III of the act; that is, State participation in the development of a State plan, to provide the coordination that is necessary for improvement of the quality of its teaching within the States.

I have seen this improvement where there has been a greater involvement in California—where the State has been involved earlier and to a greater extent than other States in the coordination and development of title III projects within that State—specifically in the development of 19 supplemental centers. I believe this is necessary in every State. Some people have suggested, however, that there are some States that are not capable of that kind of participation and development State plan for title III but I don't believe that that is reason for prohibiting them from participating.

I believe we should view title III in the same way we view the raising of children. Some children may be more reckless, less willing to accept responsibilities, but that doesn't mean that you wait until they are 21 years of age before you give them any responsibility. You have to work more closely with some than with others. The development of State plans permits—at least when the first plan is written—the U.S. Commissioner of Education to work with the States that have more difficulty in recognizing the need for coordinating their education activities and improving the quality of them. And, as a result, with the State plan development, I believe that all of the States will be able to participate more fully and more meaningfully in title III.

So I commend this program, this part of the program, and this House amendment, to you.

CATEGORICAL AIDS

Another problem in the act, however, is the fact that there continues to be an increase in categorical aids where the Federal government is saying, "That is the area of greatest need."

It tends to impose the national recognition of need on each local community. At the time that the National Defense Education Act was

passed, undoubtedly science, mathematics, and modern foreign languages were not given priority consideration in many of our secondary schools. I believe, however, that this time has ceased by now.

For a period of time, there appears to be a special need for concentrating on the educationally deprived, for improving the opportunity for securing textbooks and library resources; improving the quality of education; and this time will pass as well. But the need for Federal money will continue and, therefore, I believe we ought to move in the direction of consolidating as many Federal programs for elementary and secondary schools as we can.

BLOCK GRANT APPROACH

This is the reason why I proposed a single block grant for titles I, II, III and V because all of those four titles are funded under different formulas.

In title I, as you know, you multiply the number of poor children times one-half the State expenditure for education.

In title II, you utilize the number of children as the ratio to the number of children for the entire Nation who are in public and private schools.

In title III, each State gets a block grant, I believe, of $200,000 and then one-half of the money that remains is divided on the basis of children, 5 through 17, and the other half on the ratio of the population in the State.

In title V, you use the number of children in the public schools.

I think one formula and a State plan for the administration of all four titles of this program within the State could well be devised and, therefore, simplify the paper work or administrative work within the States and within each school district. I would, therefore, recommend that you look seriously at that.

TITLE I FORMULA

The third area that I feel is faulty in the Elementary and Secondary School Act is the formula in title I. If we are going to expand this program as we will, I think we ought to look at the basic problem that confronts us. We are using information in the formula of title I which is obsolete. We are using the 1960 census information for the part of the formula where you multiply the number of children of families of $2,000 or less, that is based on 1959 income information and each year it becomes more obsolete. If we continue as we are now, it won't be until the 1970 census information is available to us, that you would change from the 1960 census. When we adopt the 1970 census, the data would already be 2 or 3 years obsolete.

Now, a number of things are wrong with the distribution formula other than its obsolescence. One is the fact that you are counting children in some States that you are not counting in others. Let's use an example of two States, and I have prepared testimony, Mr. Chairman, which has been made a part of the record and I shall explain this to you.

In the case of New York and Pennsylvania, according to the 1960 census figures, New York has 375,000 school-age children from families with less than $3,000 annual income.

Pennsylvania has 323,000 such children.

Now, that is a very close comparison on the number of poor children. However, Pennsylvania receives only $59.9 million under title I while New York's allotment is $147.3 million.

Senator CLARK. An obvious injustice.

Mr. QUIE. Yes, an obvious injustice.

Senator YARBOROUGH. Mr. Quie, will you permit me to interrupt just a moment, since Senator Clark has brought up this point?

Mr. QUIE. Yes.

Senator YARBOROUGH. Rather than wait until you go further.

I think there is gross injustice in that formula in title I—the rankest injustice, that I know of, of distribution of money under any Federal law.

I will not interrupt. I will withhold this question.

Senator MORSE. I might say I am in an impartial position.

Mr. QUIE. Texas has a great many children in the under $3,000 income category, 647,000.

Senator YARBOROUGH. This is not a Texas brag. Unfortunately, we are far more in the poverty bracket than any other State in the Union.

Mr. QUIE. While New York receives $147 million for its 375,000 poor children, Texas receives $96 million for its 647,000.

One of the reasons is that, as shown by the table which we put in the record, all of the children in the $2,000 and $3,000 income are picked up in AFDC criteria in the act, and counted in New York. In Pennsylvania, however, 50,000 of the poorest children are not counted and in Texas, 250,000 of the children are not counted because they are not on AFDC welfare rolls.

Senator MORSE. May I interrupt the general ruling?

Not only this table will be inserted in the record, but any other material that you seek to offer will be inserted in the record. Just make it available to counsel of the subcommittee and it will be inserted in the record at those appropriate places related to your testimony, or if you wish, it will be inserted en bloc at the end of your testimony.

Mr. QUIE. Thank you.

Senator CLARK. Could I ask one question?

Senator MORSE. Senator Clark.

Senator CLARK. Congressman, can you give us a pragmatic explanation of what seems to be some unjust result?

The Congressman knows, unlike over in his body, here we have two votes per State regardless of the size.

Is there anything in the formula which is politically appealing to the smaller States?

Mr. QUIE. No. I would say that the formula presently used now is most appealing to the State of New York, and next, to California.

Senator YARBOROUGH. It favors the States with the highest per capita income; the richest States?

Mr. QUIE. Yes.

Senator YARBOROUGH. This formula, like others, rewards the rich. It is like enacting the poverty program and giving the most of the money to the richest people in town. That is exactly what this program is doing now. The highest per capita in the Union, over $3,000 per person, per annum, in California. You skim the cream off.

Senator CLARK. What I don't understand is how it got by the Congress.

Mr. QUIE. I can understand well how it got by the House. The majority of the House Members come from wealthier States. But I don't understand how it passed your body.

Senator YARBOROUGH. I protested in the committee and on the floor of the Senate and promised to keep up this fight as long as I am in the Senate or until justice is done to this formula. If we don't get some justice, the time may come when I may vote against the whole program unless we get some sense of justice here. We are paying the rich people the most money under the poverty formula. That is exactly what is happening.

We had testimony before this subcommittee last week from high ranking officials of the schools of New York that the city of New York puts 20 percent of its city budget on education. 20 percent.

My hometown of Austin, Tex.—it is a small city, of course, only about a quarter of a million—but over half of our city budget is spent for education alone. Over 50 percent. The city of New York, the richest city in New York, spends 20 percent of its budget but it is getting far more out per child than any other State.

Mr. QUIE. For a long time, we had the argument of whether Federal aid ought to be equalization aid, or whether we ought to have a flat amount per child per State.

Now we have gone the other direction. We have neither equalization aid, nor the flat amount per State but a formula wherein the wealthier States receive the greatest amount of aid.

ONE-HALF NATIONAL AVERAGE FORMULA FACTOR

We did add an amendment which will go into effect this year; we had it last year and kept it this year. We will use the national average if it is higher than the State average. This will bring about some improvement in equitability.

However, this does not solve it either. Too, even if we had a flat sum per State, which was a national average, from 1959 until the present time, there has been a great migration within the country.

I talked to the chief State school officer of Kentucky who said that in 81 of their counties, there has been a net reduction in the number of children of school age. Well, this means that they are also counted for money under title I, even though the children don't exist there any more, because we count the number of children of low-income families in 1959.

Senator YARBOROUGH. This amendment, Congressman Quie, that you talk about, was my amendment to bring them up if they were below the national average, at least to the national average. I did not think it a fair formula as it was. It was just an attempt to get some fair sense of justice in the law in the distribution of moneys.

Now, that was stricken out in the House committee this year but put back in on the floor by medium of the Gibbons amendment. That was my amendment of the year before, making it effective this year. The House committee struck it out and was going to leave it with the vast, gross injustice.

While we are digressing from your statement to talk about this subject, I would like to mention two experiences this year, in hearings in the lower Rio Grande Valley of Texas where I have been on the Senate committees; one with Senator Harrison Williams' Migratory Subcommittee and one with the chairman of the Subcommittee on Bi-Lingual Education.

These four counties contain over 600,000 people. 70 percent of all of the children in the schools come from Spanish speaking homes, but this past fall, 90 percent of all the first graders entereing school came from Spanish speaking homes.

There are families there in the Rio Grande Valley where the gross income of the entire family is $300 per year.

Now, the theory of the New York Senator was that that county does not need the money for teachers.

It needs more. The superintendent of schools of the county seat of Starr County where we have low wages and this great problem, testified he has been to Columbia University studying education; he knows his business, but he has terrific problems. He has a one-third teacher turnover every year. The only people he can get to come out and teach are those who had not found a job; maybe young, without experience; maybe the ones with temporary certificates. This year, he is not able to recruit teachers anywhere to fill that need. His teachers stay just a year and get experience and move on to another school.

It is not true that these schools in the impoverished area don't need this money. They need it worse.

Of course, most of the schools in Texas, most of the State money, most of this public school money comes straight from the State. If he depended on local taxation, he would practically have no school; but the bulk of the money comes from the State. If this formula is kept up for a decade or two, it would perpetuate poverty in this country. It would perpetuate a poorer grade of education. It would, as you pointed out, give more money to the richest and take it away from the poor; it just does not give it to those that have not the rewards of wealth.

Mr. QUIE. The rich get richer and the poor get poorer.

Senator YARBOROUGH. I have read a book written by a brother Texan, H. L. Hunt, of Dallas, Tex., entitled, "El Paco." He advocates a new Constitution under which a man who is worth a million dollars, his vote counts 10 times as much. He has scale votes and your rate of vote depends on your wealth. That is exactly what this Education Act is doing now. El Paco was put into effect in the Federal law, with this education law.

Senator MORSE. Could I ask for clarification on a point?

Maybe nobody can help more than you and your study of this. Senator Yarborough was quite right. I think it was 2 years ago, Senator, that you made the fight for what now is the principle of the Gibbons amendment, and you have had it written into the law, thinking that would help some.

The two matters that I wish you would comment on—I was not going to interrupt until you had finished; I think for continuity of the record, this is as good a place as any in view of the point that Senator Yarborough and Senator Clark have raised.

RELATIVE WEIGHT IN FORMULA OF VARIOUS FACTORS

I would like to have you comment on to what extent you think there is some balancing of interest between the so-called poorer States and the rich States, by the alternatives that exist in the formula.

The formula is the number of children times half a State per-pupil cost; or the number of children, one-half of the national average per-pupil cost, which is the most beneficial to a given State.

I think you ought to give us your view as to what you think this one-half of the national average per student cost, the effect of balancing somewhat, the differences between the rich and the poor State, if any. The States with the low per capita income, really have the advantage of alternative No. 2 which is one half of the national average per-pupil cost. This means that they get a higher payment than they otherwise would get if the number of children times one-half of the State per-pupil cost is used.

MIGRATION TO URBAN AREAS

Senator Clark, before he left, asked me if I would raise another facet of the problem. It concerns the fact that the so-called rich States, however, are also the States that have the greatest number of ghettos. He said he would like to have me point out that, coming from the South—it has been going on for some years and it is going to continue—there has been a large-scale migration of Negroes. Some of them are completely illiterate. Many are functionally illiterate. They arrive, bringing their children with them. This places an additional burden on the so-called rich States and on the ghetto schools. Senator Clark thinks that some balancing of interest ought to be taken in account in regard to that problem.

I wanted to throw before you these considerations for whatever comments you want to make, Senator Yarborough, too, because I know of his longstanding interest in this formula problem, may wish to comment.

Mr. QUIE. Yes, Senator.

As Senator Yarborough said, the fact that we now permit the poorest State to use the national average per pupil expenditure reduces the inequity in the formula, and as long as individuals are taking credit, I might say on the House side last year, I offered the amendment which was adopted in the committee. There would have been no advantage for the State of Minnesota, but I do believe in equitability, and that we have a concern for and responsibility for other areas of the country such as the poor Southeastern States of the country. But, as Senator Morse suggested, there are severe problems in the center cities and the ghettos of the northern, wealthy cities, as well.

Now, we have the concept that this legislation is intended to aid and zero in on the areas of greatest need and this was supposedly, the original intent of the legislation.

However, the money goes to better than 90 percent of the school districts of the country; more than 17,000 school districts receive money, whether they are the most needy or not. They receive assistance. In fact, any county that has more than 100 children, who come from families with less than $2,000, or on the AFDC at a higher income level, can qualify.

Senator YARBOROUGH. I wonder if Westchester County in New York qualifies.

Mr. QUIE. It qualifies, and for a large amount of money. I believe it is the sixth wealthiest county in the United States and the wealthiest county in the State of New York.

Senator YARBOROUGH. I wonder if MontgomeryCounty, Md., qualifies under it?

Mr. QUIE. Yes, it does.

Fairfax County, Va., too.

I guess Montgomery County is the wealthiest county in the United States, and Fairfax County is not for behind.

But I would say there is inequity in some of the rural areas, too. I have checked on some of the Midwest rural counties which are not poverty stricken in any sense compared to the Southeastern part of the United States, which has been the breeding ground for the ghetto—where they all began. Because in some areas in 1959, there was a drouth, the income of those farmers was very low. Therefore, their children qualified to be counted during all these years for aid under title I of the ESEA and they may have had substantial incomes thereafter.

Another reason why this program, this formula, is inequitable, is that even if we use the formula counting the national average and/or the State average, whichever was the highest. It would be fairer if you had some means of determining equitably, that is, who the children are that you should count. But we don't have that, either, because there has been a great migration since the 1959–60 census, was taken and there has been a great change in income since that time, too.

ALTERNATIVE FORMULA FACTOR

I suggest that the best formula that we could use, since the Federal Government does not know who is educationally deprived, and the local school district doesn't know who is poor although they know who is educationally deprived—this is the problem we have in this legislation. The local district knows who is educationally deprived. The Federal Government knows who is poor by some obsolescent census data and you have to match these two together. I think the best way is to utilize the experience we have had in previous legislation, in vocational education and in NDEA. We used the formula where you count the number of children of school age, five through 17, and you use the factor of the personal income per school age child, which gives greater benefit to the poorer States who have more educationally deprived children, not only the ones who are migrating to the ghetto but the ones who stay there as well. Judging from studies made by the Department of Defense and the Department of Labor and Department of Health, Education, and Welfare, this includes one-third of the number who do not pass their pre-Selective Service physical examination.

EFFECTS OF FORMULA CHANGE

I believe that formula would be most equitable.

We do have a problem, however, that any time you change the formula, like any time you change tax law, or that you change the

formula on tax law, some people have a reduction and some have an increase, no matter how you change it.

New York will receive less money than they presently do under the current formula, and, therefore, you have the problem of votes in the Congress as well. You have to take that into consideration.

I think this would be the fairest formula that could be used. Annually, this information is upgraded, so you always have current information. Then you require that the States develop a plan so that they meet the areas of greatest need, so that Harlem and Bedford Stuyvesant and Patterson are the areas reached in the State of New York. And States like Mississippi would be the ones who would receive the special assistance from the U.S. Commission in working out a State plan. But in every State they have the sensitivity within the State to know where the areas of greatest need are.

In my State now, there is an entitlement for each school district, in each county, under the formula we presently have. The money does not go to the areas of greatest need.

Minnesota has the problems of the ghetto, too; not like New York, or Detroit, or Chicago, but they do have a ghetto there and they have a severe problem and they should be permitted to zero in on that area of greatest need and devise a State plan which would permit them to do it.

There is no evidence that the United Office of Education has either the intelligence or the sensitivity to determine how this money should be spent in each school district. There is no way that Congress can devise an equitable formula for each school district.

I think the best we can do is to devise as equitable a formula as we can, and divide assistance among the States and then depend on them, through a State plan, to devise what would equitably reach the areas of greatest need within the State.

FUNDING GOAL OF $5 BILLION

I think, in that way, we can expand the Elementary and Secondary School Act to be a program which will carry out the Federal Government's commitment to the elementary and secondary schools. I think it ought to be done to the level of $5 billion. That is the level at which we should set our sights.

Thank you.

SPECIAL CENSUS AUTHORITY

Senator MORSE. Counsel has called my attention to the fact that title I language now has authority for a special Census procedure, so that communities which feel that the 1960 data are obsolete for them, can have some recourse. It costs them to have such a special census made—I know there is a cost factor there.

This is an attempt is it not, to deal in part with the comment which you made a short while ago that the school districts ought to have available to them, up to date data that will show how many of these students they have in a given area that fall within the so-called poverty level.

Do you think that is helpful at all?

Mr. QUIE. I think it might be helpful. So far, we have found that it is too expensive for them to conduct a special census and we just passed in the House last week, a bill which will have the regular census every 5 years. All of this would be helpful, I think, and make the act more equitable than it is now, but I don't see how we can ever bring it up to the kind of equitability that we need unless we move into a formula such as has been so well accepted heretofore in programs like the National Defense Education Act.

Senator MORSE. You may proceed, Senator Yarborough.

RESPONSIBILITY FOR URBAN DISTURBANCES

Senator YARBOROUGH. I have one comment to make since this question came up. That involves the responsibility of the South to the ghettos, Mr. Chairman. I think the most hypocritical statements being made in American public life today are by people in some of the cities where they have had riots, that the South is responsible for those riots in the ghettos.

First, for a while, they argued police brutality; then they decided it was lack of education; then they decided it was poverty; then that 40 percent of the adults were unemployed. Now, they have decided that the South—a good old scapegoat that has been kicked in the teeth for 200 years—is responsible for the riots in the ghettos of the North.

I decry that statement as one who supported every civil rights bill since I have been in the Senate and the only Senator from a Confederate State to vote for cloture in 1964. I know the history of my own State. We did not export those arsonists and snipers from the South. That is not where they came from. They went up North expecting equality and they got a lot colder shoulder than they ever received in the South. I don't say that is the cause of the riots. There are too many causes and they are too complex, but to say the place where they formerly lived is the reason why they are rioting in the North is a bunch of hypocrisy.

STATE ROLE IN SCHOOL DISTRICT FUNDS ALLOCATION

Senator MORSE. I want to raise another matter with you, Mr. Quie; we consider you an exceptionally qualified witness.

It involves the great difference of opinion regarding the proposal of the administration and the proposal of some of the state educational agencies.

Does not the State educational agency now apportion money within the counties, in a given State, unless the State is one of the 19, as I recall, of the county unit system, so does not the State educational agency now control which school districts in the State are going to get the money. The county money shall flow not to all school districts, but only to those school districts that the State authorities decide ought to get the money.

Isn't that a check that gives some assurance that the money will go into the poorest school districts?

Mr. QUIE. Senator, that is a check within the county and I might also say within the large cities of the State. The local superintendent—say in the case of Minnesota—the superintendent of schools in Minneapolis determines which schools within his total school district the money goes and, therefore, can zero in on the ghetto schools.

So in those two, it does permit the State or the superintendent of the large city to exercise the kind of jurisdiction that is necessary.

However, there is no way for the State to make the allocation among counties.

One county may have just a few poor children, and they may not be educationally deprived because they have been going to a very good school with all of these other children who are not educationally deprived. Therefore, they don't need the money.

There is no way for him to say that county X will not receive the money, because they are pretty well taken care of or have the financial ability to take care of themselves, but county B, over here, has a big ghetto and the industry has moved out; the people of affluence have moved out into the suburbs. This is the area where we really ought to zero in.

That is not permitted now under the act. I think it should be permitted.

Senator MORSE. I want you to know that you are privileged to file any supplemental statement you want to file, in view of the discussion we are having here this morning. It is not fair to expect you to go into detail on every question that we raise.

These questions are very vital to this subcommittee, as far as the final markup decision we reach. So please know that this record is going to be kept over for some days, and you are welcome to file any statement that you want, to supplement your comments this morning.

PONTIAC, MICH., TESTIMONY

Last week, we had quite a few witnesses representing the superintendents of the large city schools of the country, from across the country. One of them was the superintendent from Pontiac, Mich. His point of view seemed to be shared by the other superintendents in the large school districts, and I think it is fair to say that generally, they shared the view of the superintendent of Pontiac. They objected to the State control of funds; using the same arguments used by the States in objecting to Federal controls. They said, there is a lack of understanding and sympathy of a lot of problems on the part of the State education departments. They asked for continuation of Federal control under title III.

Now, how can we resolve this city/State, State/Federal complex equitably.

When we point out to the Department, the argument that they have used the State educational systems for titles I and II, and ask why not then also for title III; their argument as I understand it is, we are going to recall Commissioner Howe at the conclusion of our hearings to present a so-called rebuttal statement, if he has any further evidence he wants to place in the record—but as I understand it, the

Department says: We are moving as rapidly as the State departments will permit us to move in turning the whole problem over to them but because of the type of problems that are involved in title III—this is my paraphrasing of their response but I don't think unfairly—because of the nature of the educational problems that are contained in title III, there are just too many of the State departments of education which have not reached the point as yet, where they can efficiently and effectively administer title III in addition to doing a satisfactory job with respect to the other titles over which they now have greater administrative jurisdiction. As rapidly as the States can obtain qualified personnel and develop State plans and administrative procedures, we intend to transfer the work HEW intends to reach that goal; but they feel they have a responsibility to see to it that these Federal dollars that are owned by all of the people of the country, are not going to be inefficiently handled or wasted by the State departments of education. Up to now HEW is not satisfied that the States meet the standards of efficiency that we think would justify turning over to them these large funds.

What do you say about that?

Now, this is pretty much the same as the attitude of many of the superintendents of the large city school systems.

Mr. QUIE. Well, that is right, and in a way, I sympathize with them because the States have been slow, like everybody else, and it was not until just the last couple of years that the Federal Government realized it. So I imagine the States have not had a chance to move on it, either, but this is what has happened in the cities from what I have been able to observe. They no longer are the source of large revenue for the State.

DECISIONMAKERS NO LONGER CITY RESIDENTS

At one time, the large city was the wealthiest part of the State and all of the education money and equalization formula would go out in the rural parts of the State and it would not go to the large cities.

Now, it has become especially apparent in the last 5 years that not only the people of affluence, who have been making the decisions for the center city, moved out in the suburbs, but also industry and the money itself, have moved out. The large cities are ending up with the ability to raise revenue which is considerably less than parity and this is just coming to the attention of the people in the States.

Now, the cities have received—especially under title I, with entitlement—some security of receiving the Federal money. They are in the same role—as the Senator will remember—as was the case in the consideration of the Vocational Education Act of 1963, when we had in earlier legislation earmarked money for home economics and agriculture and distribution and trades in industry and they wanted to keep their security. We wanted to shift all of the money so that it could be determined within the States, in which skilltraining should be given to lead to gainful employment. But those categories, especially economics and vocational, and agriculture, did not want to give up their earmarking. The cities are in the same plight. They are receiving Federal money now which is more than they were receiving before and

they don't want to take the chance of having to convince the States of their great need.

STATE PLAN INVOLVES DIALOGUE

Now, I personally believe, Senator Morse, that when we utilize a State plan to bring the State into the picture in this partnership, that this enables the U.S. Commissioner of Education to give them some training, some suggestions, and bring them along. He can turn down that State plan, but usually, in the development of the State plan, you don't come to that final hour when the U.S. Commissioner just accepts it or turns it down. There is a long period of dialog, in which State gains a good deal in developing that plan.

I think this will upgrade the States in their abilities to administer under title III much faster than the system they are utilizing now—just waiting to prove that they have developed that responsibility. Somebody needs to play the role between the Federal Government with the money here—and we want to make sure that the money is properly expended—and the local district which has the responsibility of educating the children.

Somebody in between must coordinate between these two agencies that are so far apart.

OFFICE OF EDUCATION REGIONAL OFFICES

The U.S. Office of Education, from what I can observe, is planning to strengthen regional offices to fill that role. I think this would only serve to further weaken the opportunity to strengthen the State departments of education. I think this is a mistake on their part. I think every effort ought to be made to strengthen the State departments of education and the most ideal way of doing it would be through a State plan—administering this through a State plan.

That is why I think the amendment we have adopted in the House is really ideal to bring those States, whichever States they are, that they feel incapable now, up to that level where they do have that sense of responsibility and capability.

SELECTIVE FUNDING APPROVAL OF STATE PLAN PROVISIONS

Senator MORSE. Is there an area of possible compromise here? I am just thinking off the top of my head. Is there an area of possible compromise here that this so-called approval right of the Office might be on a selective basis where the Office can say, "All right. We have your State plan. There are 10 parts to it. We are going to give you approval on parts 1, 4, 6, 8, 9, and 10 and we are going to supply funds for those parts, but you have to take back the others in view of the objections that we now raise. You revise them and send them back to us. We are not going to tell you how they have to be revised, except in terms of congressional policy requirements which we now enunciate."

That should theoretically meet the situation in which the department feels that you are dealing with State department X in State Y. The educators tell the Office of Education, "This State is not up to

standard yet. You should not give them authority to go ahead without further Federal strings attached of it, for 1, 2, 3, 4 years unless they strengthen their departments of education." Such a procedure might meet, in part, the argument of the superintendents of the big city school districts, that they don't want to be brought under the control of their State departments of education. Some have brought out in their testimony that certain State departments of education are really rurally dominated. In those cases the State department posture is the result, in some instances, of legislative action by a rural-dominated legislature or by a Governor who may not fully, according to them, understand the problems of the schools in the big city.

It is a strange paradox, some big school systems are just as fearful of their own State department of education as seemingly some of the State departments of education are of the Federal Government.

I am always, as you know, looking for conscionable compromises which will promote the public interest and, at the same time, do the maximum good for the opposite sides in the conflict.

Is there any basis to justify our trying to pursue such a compromise?

Mr. QUIE. I think first, Senator Morse, that that is really the process under which the development of the State plan will operate. As they have their dialogue—the State sends its plans to the Commissioner or whomever he delegates, and says, "Here is a plan that it looks like we are going to submit. How does that look to you?" Then you say, "In these points it is acceptable, but you are off on these." Then it goes back to the State, for its review and the making of changes which would be acceptable to the Commissioner.

Senator MORSE. The States don't receive money on the good parts of these plans until they get the total plan approved. What I am trying to suggest here is, that it is just too bad that the good parts cannot proceed at once to receive Federal aid during the period the dialogue continues on the areas that they cannot agree upon.

PLANNING AND LEADTIME NECCESSARY

Mr. QUIE. Well, because of the month that we are in, and this planning will have to be done, hopefully, before May of next year because the schools should have their information by May—perhaps the compromise could be worked out for 1 year—if they have not reached an agreement on some parts, that then the Commissioner would be able to make that grant as he does now. I think you need a full year's leadtime, and the legislative process grinds slow and I am a believer of that myself but it does put a delay into those that administer the program.

I think this would be a way to get by 1969.

Senator MORSE. I think we ought to try to pursue it and see if we can work something out.

The week before last, we had witnesses of the State departments of education before us. They were on the other side of the House spectrum, from the city school superintendents I have cited.

What the State school officials were concerned about was the following situation: the State agency would submit a plan; the Department would object to part of it; but immediately the whole plan is sent back to them. The State offices cannot get anything until they get the State plan approved in its entirety.

I am sorry that I did not consider this proposal I have made with them at the time I had them on the witness stand. I have just been thinking about their testimony since, and you, today, caused me to throw out this suggestion.

I am going to ask counsel of the subcommittee to pursue this matter and see if we can get something. I would be very glad to submit it to you and the other members of the House committee at an informal discussion, before we get into any formal consideration of the proposal.

Mr. QUIE. Good. Senator Morse, may I make one other comment?

EARMARKED MONEY FOR CITIES

There has been a suggestion and undoubtedly there will be again; a suggestion that the money be divided into two parts; the one that the State department of education could administer throughout the State, and another part would be earmarked for the big cities in the State.

The crime bill that moved toward block grants, that went through the House last week, provided this as part of it. I have serious reservations, however, about that because it may foster a greater conflict in the years to come before the State department of education and the large city. I think the best evolution that could occur is that the State departments of education be as sensitive and aware of the needs of the center city as their own superintendents are, but if they cannot be, of course, you have to then treat those two differently.

We have seen that happen within counties, where at one time, in many States, there were county departments of the school and then with the consolidation of the school, the large school superintendents then played the dominant role and eventually, there was no need for a county superintendent of schools.

I think that the situation is not analogous in the advisability of this on a State level. I think it is more advisable to have somebody who can coordinate for all of the State, just as the move we made in the Congress to bring about State commissioners in higher education.

I think an end result will be in stronger State education systems in the State on a higher educational level and here, we have to take into consideration the private institution as well as the public.

Senator MORSE. I am inclined to that point of view. I think there is great merit in what you say.

Senator Javits has sent in a question. He asked the chairman to present it to you.

COMPARATIVE COST DATA

Could Congressman Quie furnish for the record comparative costs for (1) salaries of schoolteachers; and (2) acquisition of school sites

and erection of school buildings; and (3) maintenance costs in New York City and any one of the cities referred to, in the low income States.

Could you have someone on your staff do that? The question will be written out for you and handed to you, and if someone on your staff could prepare such data——

Mr. QUIE. Yes, sir.

Senator MORSE. It would answer Senator Javits' question.

Mr. QUIE. All right.

Senator MORSE. Thank you very much.

Senator YARBOROUGH. I would like to make a supplemental request—not part of Senator Javits'. I mean a different one.

Add to that the cost of an Arrow shirt; any brand of a named suit—in most of the school districts that are 6 miles from a highway or a railroad, you buy most of the clothing by brand, in the store, ready made—the cost of brand suits, and brand ties; the cost of chewing gum; the cost of candy, and the cans of food on the shelf. What those cost in the two States, Mississippi and New York.

Most of the time, you find that the smaller cities don't have the big cutrate sales that the great metropolitan areas do. They pay a standard price for an Arrow shirt. You cannot walk down the streets, like in the greater cities, and see these cutrate sales. When you get to the smaller cities, you pay the regular price that the manufacturers recommend.

Mr. QUIE. Just off the top of my head, if you would look at your rural States which have a superior public education system, the costs of their education run quite high as well.

Senator YARBOROUGH. Such as Utah?

Mr. QUIE. Yes, such as Utah.

We should also point out that, for instance. Mississippi, the poorest State with the lowest expenditure per public school child for education, also has one of the highest records on the effort index.

Senator YARBOROUGH. What they pay, in proportion to their income.

Mr. QUIE. That is right.

Senator YARBOROUGH. It is one of the lowest income States.

Senator MORSE. There is one other point now that you can include at your pleasure, the information that Senator Yarborough just asked for; but you can add to the memorandum that you are preparing for Senator Javits any other material that you think his attention ought to be called to from the standpoint of your sight, in regard to the problem that he is seeking to raise.

You are not limited to a narrow answer to his question. I never ask the witness to do that.

Senator YARBOROUGH. I suggest the cost of textbooks per youth in the different States, in the cities.

Senator MORSE. I think I will put in the record at this point, table 43, from page 65 of the Handbook of Educational Statistics, 1965 edition.

(Table 43 is as follows:)

TABLE 43.—*Personal income, 1964, related to estimated expenditures for public elementary and secondary education, by region and State: 1964–65*

Region and State	Personal income		Estimated expenditures for public elementary and secondary education	
	Total (millions)	Per capita	Total (thousands) [1]	As a percent of personal income
(1)	(2)	(3)	(4)	(5)
United States	$487,881	$2,550	$23,106,854	4.74
North Atlantic	151,345		6,434,659	4.25
Connecticut	8,989	3,250	348,150	3.87
Delaware	1,682	3,426	71,343	4.24
Maine	2,107	2,130	92,525	4.39
Maryland	9,913	2,888	454,848	4.59
Massachusetts	15,598	2,922	530,000	3.40
New Hampshire	1,532	2,343	67,540	4.41
New Jersey	19,792	2,962	863,600	4.36
New York	56,240	3,139	2,722,000	4.84
Pennsylvania	29,509	2,575	1,076,824	3.65
Rhode Island	2,266	2,479	84,275	3.72
Vermont	877	2,144	42,096	4.80
District of Columbia	2,840	3,515	81,458	2.87
Great Lakes and Plains	140,043		6,538,511	4.67
Illinois	31,495	3,003	1,249,396	3.97
Indiana	12,201	2,529	594,470	4.87
Iowa	6,533	2,370	313,853	4.80
Kansas	5,141	2,311	206,000	5.21
Michigan	22,135	2,733	1,170,000	5.29
Minnesota	8,356	2,373	492,736	5.90
Missouri	11,441	2,595	435,500	3.81
Nebraska	3,407	2,302	156,100	4.58
North Dakota	1,298	2,012	75,450	5.81
Ohio	26,490	2,623	1,201,300	4.53
South Dakota	1,310	1,832	79,506	6.07
Wisconsin	10,236	2,492	502,200	4.91
Southeast	79,630		3,672,558	4.61
Alabama	5,918	1,737	267,533	4.52
Arkansas	3,157	1,633	153,952	4.88
Florida	13,008	2,280	635,222	4.88
Georgia	8,299	1,933	357,519	4.31
Kentucky	5,720	1,811	230,933	4.04
Louisiana	6,463	1,864	362,500	5.61
Mississippi	3,341	1,444	178,500	5.34
North Carolina	9,217	1,900	414,877	4.50
South Carolina	4,209	1,647	196,072	4.66
Tennessee	7,035	1,852	299,300	4.25
Virginia	9,738	2,224	424,500	4.36
West Virginia	3,525	1,962	151,650	4.30
West and Southwest	116,863		6,461,126	5.53
Alaska	782	3,128	52,253	6.68
Arizona	3,506	2,218	214,467	6.12
California	55,912	3,092	3,190,000	5.71
Colorado	5,093	2,591	274,205	5.38
Hawaii	1,777	2,579	81,541	4.59
Idaho	1,392	2,012	67,754	4.87
Montana	1,539	2,183	104,000	6.76
Nevada	1,325	3,248	78,861	5.95
New Mexico	2,026	2,010	135,985	6.71
Oklahoma	5,165	2,095	239,160	4.63
Oregon	4,868	2,602	280,800	5.77
Texas	22,611	2,175	1,079,000	4.77
Utah	2,157	2,174	148,600	6.89
Washington	7,861	2,634	462,200	5.88
Wyoming	849	2,475	52,300	6.16

[1] Includes current expenditures, capital outlay, and interest.

NOTE.—Detail will not necessarily add to totals because of rounding.

Sources: U.S. Department of Health, Education, and Welfare, Office of Education, *Fall 1964 Statistics of Public Schools;* and U.S. Department of Commerce, Office of Business Economics, *Survey of Current Business*, April 1965.

Senator YARBOROUGH. The cost of tablets and pencils and school equipment that you equip schools with, whether you get your globes and the atlases at half price in Mississippi or New York. All of that equipment. I ask that my question include that, please.

Senator MORSE. Congressman, I am also going to insert in the record at this point, because I think it is relative to what we have been talking about, a similar table taken from the Digest of Educational Statistics, 1966, put out by the U.S. Department, table 69, "Personal income, 1965, related to estimated expenditures for public elementary and secondary education by States, 1965–66." The material in there is bound to be discussed by both committees, the committee on the House side and our committee.

(The table referred to follows:)

TABLE 69.—*Personal income, 1965, related to estimated expenditures for public elementary and secondary education, by State, 1965–66*

State	Personal income			Estimated expenditures for public elementary and secondary education	
	Total (in millions)	Per capita	Per child of school age (5 to 17 years)	Total (in thousands) [1]	As a percent of personal income
(1)	(2)	(3)	(4)	(5)	(6)
United States	$527,890	$2,724	$10,657	$25,801,995	4.89
Alabama	6,613	1,910	6,896	320,500	4.85
Alaska	854	3,375	12,200	47,408	5.55
Arizona	3,716	2,310	8,562	207,455	5.58
Arkansas	3,490	1,781	6,857	192,036	5.50
California	59,476	3,196	13,066	3,455,000	5.81
Colorado	5,328	2,706	10,286	303,000	5.69
Connecticut	9,604	3,390	13,939	379,000	3.95
Delaware	1,684	3,335	12,758	80,140	4.76
District of Columbia	2,942	3,673	17,512	97,909	3.33
Florida	14,049	2,420	10,151	723,449	5.15
Georgia	9,395	2,156	7,996	429,368	4.57
Hawaii	2,017	2,906	10,560	101,801	5.05
Idaho	1,618	2,338	8,255	77,787	4.81
Illinois	34,551	3,245	13,132	1,366,000	3.95
Indiana	13,815	2,827	10,751	626,614	4.54
Iowa	7,163	2,595	9,949	397,309	5.55
Kansas	6,014	2,692	10,441	287,703	4.78
Kentucky	6,495	2,043	7,677	272,500	4.20
Louisiana	7,285	2,061	7,278	414,109	5.68
Maine	2,229	2,245	8,707	108,300	4.86
Maryland	10,612	3,014	11,611	526,925	4.97
Massachusetts	16,168	3,023	12,582	575,000	3.56
Michigan	24,737	3,009	10,999	1,257,000	5.08
Minnesota	9,333	2,625	9,742	547,515	5.87
Mississippi	3,636	1,566	5,403	204,627	5.63
Missouri	$11,820	$2,628	$10,707	$482,402	4.08
Montana	1,701	2,409	8,723	103,500	6.08
Nebraska	3,800	2,573	10,053	163,000	4.29
Nevada	1,447	3,289	13,781	60,645	4.14
New Hampshire	1,719	2,570	10,355	78,120	4.54
New Jersey	21,965	3,242	13,575	953,500	4.34
New Mexico	2,292	2,227	7,490	174,342	7.61
New York	58,595	3,242	14,072	3,070,000	5.24
North Carolina	9,968	2,028	7,506	497,200	4.99
North Dakota	1,502	2,304	8,253	81,500	5.43
Ohio	28,857	2,816	10,660	1,306,000	4.53
Oklahoma	5,552	2,236	9,013	305,999	5.51

See footnote at end of table, p. 1887.

TABLE 69.—*Personal income, 1965, related to estimated expenditures for public elementary and secondary education, by State, 1965–66*—Continued

State	Personal income			Estimated expenditures for public elementary and secondary education	
	Total (in millions)	Per capita	Per child of school age (5 to 17 years)	Total (in thousands) [1]	As a percent or personal income
(1)	(2)	(3)	(4)	(5)	(6)
Oregon	5,309	2,794	10,857	310,476	5.85
Pennsylvania	31,436	2,728	11,073	1,261,000	4.01
Rhode Island	2,510	2,817	11,896	98,843	3.94
South Carolina	4,673	1,838	6,366	241,900	5.18
South Dakota	1,445	2,055	7,448	89,585	6.20
Tennessee	7,663	1,992	7,671	355,500	4.64
Texas	24,751	2,346	8,768	1,226,000	4.95
Utah	2,317	2,340	7,881	175,890	7.59
Vermont	929	2,340	8,933	45,498	4.90
Virginia	10,657	2,392	9,275	473,500	4.44
Washington	8,564	2,864	11,036	491,000	5.73
West Virginia	3,636	2,007	7,375	162,700	4.47
Wisconsin	11,115	2,682	10,141	542,880	4.88
Wyoming	843	2,479	9,065	52,560	6.23

[1] Includes current expenditures, capital outlay, and interest.

Sources: U.S. Department of Health, Education, and Welfare, Office of Education, "Fall 1965 Statistics of Public Schools." U.S. Department of Commerce, Office of Business Economics, "Survey of Current Business," April 1966; and Bureau of the Census, "Current Population Reports," Series P–25, No. 333.

Senator MORSE. I thought you ought to have a reference to that, for whatever value it may be worth, in the preparation of any memorandum that you prepare for the subcommittee.

Mr. QUIE. Very good.

STATE PLAN DEVELOPED BY BROADLY REPRESENTATIVE COMMISSION

Senator MORSE. I have one more question, if I may interrupt this a bit longer.

One of our witnesses has suggested that the State plan for title III be drafted by a broadly representative State committee or commission, as in title I of the Higher Education Act.

What would be your reaction to including this type of requirement, rather than limiting it just to preparation by the State department of education.

Mr. QUIE. I would react favorably to it. I think that the plans devised by the Commissions, which administer the State plans of higher education have done an admirable piece of work and they brought about a cooperation between the various groups in higher education that never existed before.

I think it is all to the good.

Senator MORSE. You may proceed now. I am sorry we have taken up so much of your time.

Mr. QUIE. I have finished my statement. I did finish my statement in the process of answering questions.

Senator MORSE. Senator Yarborough?

Senator YARBOROUGH. I have one other question.

I want to commend you for pointing out that educational deprivation is not necessarily concomitant with low income in a county of certain families.

I know of a certain school district that I visited where they have about 600 students, but they have more than 100 producing oil wells. They not only have a basketball coach, they have two assistants. They have everything they can think of—all kinds of aids.

The district east of them has no oil but it has irrigated farming. It is an agricultural district.

The district west of them has neither. They have poor grass; it is a very poor district. And so the children that come to the district of 100 oil wells are not educationally deprived. They have all of the frills. They do everything for the children; all of them. And I think you made a good point there that the wealth of the district is what it can and does do. That is an important factor here, the fact that some children are from very poor families in the district.

I think we need to explore that in both the Office of Education and our committees in the Senate and the House.

Mr. QUIE. Even if we funded title I to the full amount of the authorization, $2.4 billion, it is not there. That is not enough money to give to the less needy school districts when the neediest ones are going to be in want. I think we will still have to conserve our money to go to the areas of the greatest need. This is what I am really striving at, to try to bring about a marriage here, where the State can fill this role between local school districts, who know who is educationally deprived, and the State, then, who knows which districts have the most deprived and the Federal Government who has the money, to assist in the training of children who are educationally deprived; not just poor kids.

Senator YARBOROUGH. Thank you.

HOUSE AMENDMENTS BACKGROUND

Senator MORSE. I have one final question, Congressman. I think you will agree with me that it is a proper question because both of us are completely impersonal in regard to how amendments get before the committee in either House.

We have before us now not only the proposals that you make on the House side, but we have the amendments of Congressmen, agreeing with really, what is written in the House bill and I would like to have your appraisal of the Green amendments, even though in some respects, your proposals went further than her proposal did.

As I understand it, her proposal pretty much was working out a compromise on the House side between the original Quie bill and the administration bill. Will you put this record straight? It is my understanding it needs to be clarified. I think that is pretty much the understanding of the members of my committee.

I have given assurance, as I am sure you know, that in these hearings, there will be a full consideration of the original Quie proposals and there will be a full consideration of Congresswoman Edith Green's amendments. Would you be willing to make any statement

on the comparison of her proposals with your proposals and what you think the vital differences are, and to what extent you think that the compromise—if that is a proper way to describe what the House did—that the compromise that was worked out on the House side between your proposals and her proposals, and whether you think that the result was a pretty fair bill that we ought to give favorable consideration to.

Mr. QUIE. Yes. I would be glad to explain the difference between these amendments.

I supported the passage of the act on the House floor and I think that Mrs. Green's amendments are absolutely necessary if we are going to move in the direction that I propose to move with my amendment, which was some steps further than she did.

I believe we must consolidate as many of these programs for the elementary and secondary schools as we can—move in the direction of, you can call it block grants; general aid; but at least give more opportunities to exercise responsibility locally and in the State, and less of the direction of Federal influence which has come about with categorical aid.

In fact, there is more Federal influence in our schools now, through categorical aid, than I believe the opponents of general aid anticipated back when they fought general aid so much because of their fear of Federal control and I was one of those in my early years in Congress who voted against general aid to elementary and secondary schools and I see the error of my ways. I think one of the biggest mistakes that we made was to vote against that legislation at that time.

Now, I believe if we are going to move in the direction of block grants, then we must have some similarity to these programs of the involvement of the State, so the State must at the minimum at least, develop a State plan which says we have a State plan in title III of NDEA which is the equipment title for the elementary and secondary schools and as they did see wisely, in the Elementary and Secondary School Act, in the title II plan, I think we need it in all the titles so we can blend it together some time in the future. I think that day is approaching quite fast.

TITLES III AND V, ESSA

So in answer to your question, I think Mrs. Green's amendments to title III and title V were of the utmost necessity and with those amendments adopted, I think then we can move when we begin hearings for extension to 1970, and beyond, in trying to fashion elementary and secondary school legislation so that there will be the least amount of restrictions due to the categorical nature, and the greatest amount of leeway so local communities and States can determine their areas of need and zero in on it for the benefit of children.

Senator MORSE. Congressman Quie, I want to thank you for your testimony and I hope you will permit me to make this personal remark.

You have just made a statement in my judgment, that deserves the highest of commendation. It is not very often that we hear very many of our colleagues in either House, publicly say that they changed their mind about something.

For some reason, so many politicians think that is some kind of a a confession of weakness. What it is, is carrying out the duty that we owe the people we represent if we honestly reach the conclusion that what we thought were the facts we were following proved not to be the facts that we thought they were.

Our duty is to change our minds. I wish that the comment that you just made was a common comment among legislators, but it is about as rare as hen's teeth. I commend you for being willing to say you changed your mind on something, and I think if further additional facts are presented, you have a right to change your mind back to where you were originally.

Most people don't understand that these legislative problems that we are dealing with are very fluid. They change from time to time as the social order changes; as the facts within the body politic change. What may be a sound legislative program for one period of time may be quite unsound a decade later. I am delighted that you made the philosophical statement that you just made because it is my judgment it is pretty basic to the philosophy of representative government. Too many of our people have never caught it; never understood it.

I want to thank you very much for your testimony this morning.

Mr. QUIE. Thank you, Mr. Chairman.

Senator YARBOROUGH. Mr. Chairman, I would like to join in that expression and thank Congressman Quie, as he has been on all of these conference committees between the two Houses on the educational bills. Mr. Chairman, you will recall in our first general elementary and secondary education bill, many had failed in the past sessions; it was touch and go as to whether we would have one or not. It was a very close vote in the Senate conferees as to whether we had one. I knew of these injustices in the title I formula at the time. I pointed them out and protested them but with the pragmatic approach, I thought it better to have a law with weaknesses in it than no law. I voted and helped to put this bill through the committee and the Senate and the conference but I did not expect I would have to sit idly by and see these injustices perpetuated. When we get the law on the book, my thought was to correct it. I found that injustices written into the law are just as hard to eradicate as the just parts.

As you point out, Federal education is here to stay. I hope the injustices we put up with to get a law on the books are not here to stay.

Thank you for your very fine contributions.

Mr. QUIE. I find that too often, when the injustices stay too long, it appears the entire law seems to be in danger but I think the attitude of the Congress now, to support education, is such that we can correct the injustices without endangering the legislation. I think a good proof of that was all the battles that we had on the National Teacher Corps. We finally developed a Teacher Corps which now has bipartisan support from both bodies, and I think we have a new era of support for that now.

I think the same is true for elementary and secondary education as a whole.

Senator YARBOROUGH. Mr. Chairman, this committee had a great fight on the floor of the Senate and it came close to winning to increase the Teacher Corps moneys to the full amount appropriated. I am on the Senate Appropriations Committee. We had no such success

on that committee, but we did raise it over the amount that the subcommittee recommended. The subcommittee is supposed to be more friendly to education than the full Appropriations Committee. People gravitate to their areas of interest, but despite that, the amount voted by the Appropriations Committee of the Senate was greater than that recommended by our Educational Subcommittee in the Appropriations Committee.

Senator MORSE. Thank you.

(The supplemental statement of Congressman Quie follows:)

SUPPLEMENTAL STATEMENT OF HON. ALBERT H. QUIE, MEMBER OF CONGRESS FROM THE STATE OF MINNESOTA

The question submitted by Senator Javits and the question asked by Senator Yarborough point to opposite sides of the coin of school finance. Obviously, both teachers' salaries and expenditures for construction are going to be very much higher in high-income states. But it is also true that many recurring educational expenses, such as the cost of books and equipment, are fairly uniform throughout the Nation. Upon reflection, I cannot see the need for long tables of statistics to demonstrate the obvious; if the Committee wishes them for this record, they are available from the U.S. Office of Education.

Our concern is for the significance of available data. Does it follow, as suggested by Senator Javits' question, that because New York spends more per student than any other State that it should receive more in Federal assistance? In my judgment, it does not. In Mississippi, only 2 percent of the classroom teachers are paid between $6,500 and $8,499 per year, with none receiving more than $8,499; in New York, 80 percent are paid $6,500 or more, with 30 percent receiving more than $8,499 and 12 percent receiving $9,500 or above. This enormous discrepancy is explained by another. The median family income in Mississippi in 1960 was $2,884 with 51.6 percent of the families below the $3,000 "poverty level" and only 5.2 percent with an income of $10,000 or more; the comparable figures for New York was a median family income of $6,371, with 13.8 percent in the "poverty level" and 19.9 percent earning $10,000 or more.

Even with a greater effort than New York, proportionate to wealth, Mississippi cannot support education at a level remotely approaching that of New York State. And we cannot assume a national interest in education without assuming that a child in Mississippi has as much need and as much right to a good education as a child in New York.

There is some differential in living costs and wage scales between sections of the country, but as Senator Yarborough's question implies, a suit of clothes, an automobile, a television set, a can of beans, or a vacation in Europe costs a teacher about the same, whether he teaches in Biloxi or Buffalo. That may explain why 24 percent of the elementary teachers and 15.8 of high school teachers prepared to teach in Mississippi actually take jobs in other States, as opposed to 6.6 percent and 4.4 percent, respectively, for New York.

We might find upon careful analysis that it does not cost a great deal less in Mississippi to provide a really first-rate educational system than it does in New York or California. One might argue that it could cost *more*, because we know that it does cost a great deal more to bring economically and socially deprived childen up to an acceptable educational level than it does for middle class children who derive much of their educational advantage from their home environment. Title I of the Elementary and Secondary Education Act is predicated upon this assumption. Yet, as Senator Yarborough knows all too well, Texas, with two-thirds the population of New York, has nearly twice as many school-age children from families with poverty-level incomes. Yet Texas is allotted little more than half as much in New York under Title I of this Act with which to improve the education of disadvantaged children.

I simply do not think it is reasonable to maintain that the discrepancies in this allotment formula can be justified by whatever differences there may be in the costs of providing a fully adequate education in New York, California, Minnesota, Mississippi, or Texas.

Therefore, I again urge this Subcommittee to examine the distribution formula carefully and to consider suggestions for removing its obvious inequities.

Senator MORSE. Our next witness will be Andrew J. Biemiller, director of the Department of Legislation, American Federation of Labor and Congress of Industrial Organizations.

I want to say as Mr. Biemiller comes to the witness stand, that this subcommittee in my judgment owes to Mr. Biemiller a debt of gratitude for the help that he has been to the subcommittee in the presentation of the AFL–CIO point of view on education legislation for the past several years.

All you have to do is look at the testimony that was given from year to year and the legislation that has finally passed and you cannot deny the influence that the AFL–CIO and Mr. Biemiller have had on our legislation and rightly so, because in this legislation, we are seeking to be of assistance to, really, millions of boys and girls that come from the homes of the workers of this country. Too frequently, the children of the workers of this country represent a group of children that are in dire need for improvement in the school districts in our great industrial centers.

I want to say I gild no lily, Mr. Biemiller, when on behalf of this subcommittee, I thank you for your past services, and welcome your testimony again this year.

Mr. BIEMILLER. Thank you, Mr. Chairman.

Senator YARBOROUGH. May I say something?

Senator MORSE. Yes, Senator.

COLD WAR GI BILL COMMENTS

Senator YARBOROUGH. I desire to associate myself with the remarks of the chairman and over in another field, that of veterans education, pay even a more glowing tribute. When the cold war GI bill was introduced in 1959, we had difficulty at first, interesting the educational organizations and the veterans organizations—and the representatives of some veterans organizations said, "That is education." Some education organizations said, "That is veterans. We are interested in education."

But the AFL–CIO Legislative Department, under the leadership of Andy Biemiller, came to the support of that legislation the first year and stayed with it until the educational and the veterans organizations came in, but they were in the forefront. They helped us pass it in the Senate by a top heavy vote in 1959. It was the biggest, the only real big organization in America supporting that legislation. They were very much interested in on-the-job training; they were interested in all of it but they testified to all but expressed their special interest in on-the-job training. When we finally passed the act last year, the House of Representatives struck out on-the-job training. I think they were kind of punishing Andy for being such a great force in getting a cold war GI bill.

I want to tell you, Andy, at the final conference this year, we have an amended cold war GI bill to improve it. Again, the House of Representatives had no on-the-job training; no flight training; and no on-the-farm training. We passed that in the Senate.

We signed the conference report Thursday afternoon and it should pass this week. Now we have on-the-job training back in that bill and it is retroactive to February 1, 1955; and all of the

more than 5 million cold war veterans who were honorably discharged, who entered service any time after February 1, 1955, are eligible for on-the-job training and their payments will be substantially higher than under the Korean conflict bill of the GI's.

I want to thank you for your long support and tell you we did not forget you because we got most of it last year. Your long fight has paid off, not only for all the veterans, that go to high school and college, but for those who want to take on-the-job training too.

The chairman of this committee fought with us shoulder to shoulder in every one of these veterans bills all the way through, with his strong encouragement. He has been coauthor.

Senator MORSE. I was going to make a comment before you made your last comment but in spite of the last comment, I want to say that I want to not only thank Mr. Biemiller but I want to thank the Senator from Texas for the great contribution they have made to education legislation vis-a-vis the legislation for the veterans, and now we are starting with the GI bill—starting with the GI bill not only for the World War II veterans, but for the Korean veterans and now the Vietnam veterans.

I want to thank him also for incorporating in that legislation, the job training program about which the Senator from Texas has just spoken. Along with other members of our committee, it is a privilege for me to stand shoulder to shoulder with one of the sponsors of the legislation, as well as the man who is responsible for it, the chairman of that subcommittee, the Senator from Texas. If it had not been for that stubborn persistance on his part, not to take no for an answer, we would still be fighting, I think, for a GI bill.

One of his great sources of strength was the AFL–CIO through their legislative counsel, Mr. Biemiller.

So I just want the record to show that I think you have engaged in an understatement rather than an overstatement when you expressed the views that you have about the contribution that Mr. Biemiller has made.

Senator YARBOROUGH. I agree with you, Mr. Chairman. Thank you.

Senator MORSE. You may proceed in your own way.

STATEMENT OF ANDREW J. BIEMILLER, DIRECTOR, DEPARTMENT OF LEGISLATION, AMERICAN FEDERATION OF LABOR & CONGRESS OF INDUSTRIAL ORGANIZATIONS

Mr. BIEMILLER. Mr. Chairman, thank you and Senator Yarborough for those very kind remarks. The American labor movement, as you know, has been interested in educational matters ever since there were unions in the United States. I assure you we will continue to exhibit that same interest.

May I also add before I get to my brief statement that we have today purposely kept within the 10 or 12 minutes that you suggested for formal presentations.

We should be happy at any time to submit additional material which the committee or its staff may ask us to do.

Senator MORSE. I am sure you will be asked to but I also want the terms of our standing invitation understood by you that you can sup-

plement anything you say this morning, before the record is closed. It will be some days before it is closed. We will be glad to have your statement at any time.

Mr. BIEMILLER. Thank you.

I also want to add that I am accompanied this morning by Mr. John Sessions, who is assistant director of the AFL–CIO Department of Education, and a member of the Board of Education of the District of Columbia.

Senator MORSE. I know of his work very favorably. I would like to suggest to you, Mr. Sessions, that you supplement the record as you pursue what we are considering before the subcommittee, with whatever data or argument you think would be helpful to us in working up the final bill.

(The prepared statement of Mr. Biemiller follows:)

PREPARED STATEMENT BY ANDREW J. BIEMILLER, DIRECTOR, DEPARTMENT OF LEGISLATION, AMERICAN FEDERATION OF LABOR AND CONGRESS OF INDUSTRIAL ORGANIZATIONS

The American Federation of Labor and Congress of Industrial Organizations is pleased to have this opportunity to meet with this committee and to pay testimony to the wisdom and vision with which it has shaped a series of educational programs that have brought significant benefits to the millions of American children and young people.

We are here today to discuss the various amendments to the Elementary and Secondary Education Act of 1956 included in S. 1125. "The Elementary and Secondary Education Amendments of 1967." We are proud of the part which the AFL–CIO played in shaping that act and in helping to secure its passage.

Throughout the nation, programs funded by the Elementary and Secondary Education Act are bringing new educational opportunities to the children who need them the most, the children from low income families who must have excellence in education if they are to break out of the poverty cycle which has entrapped their families, in many cases for several generations. This legislation has placed libraries in schools which were previously devoid of all books other than the most essential textbooks—and many of these were out-dated. It has encouraged promising innovations in teaching methods. And it has strengthened the support available for long needed educational research.

Experience has shown that there is need for improvement and expansion of the original legislation, but this should in no way detract from the fact that the Elementary and Secondary Education Act so far constitutes an impressive success story and that it is one of the most important legislative achievements of Congress in recent years. We are firmly convinced that the great breakthrough in the education field accomplished by the 89th Congress has received overwhelming support from the American people.

The importance of this breakthrough can best be measured by the fact that federal aid for education had been a subject of debate in America for more than a century prior to the enactment of the Elementary and Secondary Education Act of 1965. Invariably proposals became bogged down in controversy over possible dangers to local control of education and over the question of aid to non-public schools. In Congress, proposals which proved acceptable in one house proved unacceptable in the other.

The Elementary and Secondary Education Act was a carefully formulated piece of legislation which for the first time provided a way out of the years of impasse. Federal aid for elementary and secondary education is today a working reality and it is working under a structure which experience demonstrates endangers neither local control of education nor the separation of church and state.

Some members of Congress and even some conservative members of the education establishment have proposed to alter substantially the Elementary and Secondary Education Act. They would do it on the basis of impulsive and

hastily put together formulas for block grants to the states which could destroy the entire balance that made it possible to resolve the conflicting demands upon federal aid. We urge the Senate to resist these pressures. They are pressures which place the entire federal aid program in serious jeopardy.

The Elementary and Secondary Education Amendments of 1967 contained in S. 1125 build upon the successful programs which are already under way and we pledge our support to the Senate Committee on Labor and Public Welfare in holding fast to this approach.

TITLE I

Title I of the Elementary and Secondary Education Act, the largest in terms of its authorization, places federal funds where they are most needed. In the hands of local school districts that are dealing with the educational needs of disadvantaged children. To replace this program with one of block grants of federal aid to the states would dissipate the effect of federal aid and would correspondingly diminish the educational opportunities of those low income children who need help the most. It would, to say the least, be a peculiar response to the dangerous wave of unrest which has swept across the nation to blunt the effect of a major program that can help to eliminate the causes of that unrest. We would strongly urge that Title I be continued in its present form and that the funds available under that Title be substantially increased.

TITLE III

Title III of the Elementary and Secondary Education Act provides funds to develop innovative programs. Compared to Title I, Title III provides only a modest amount of money, but it is money that is having effects of great significance throughout America's schools. It has become increasingly apparent that American education in its organization, its teaching methods, and in its materials has been primarily oriented with the needs of middle class children. These methods have failed to make contact with the children of the urban ghettos. There is abundant evidence that disadvantaged children can learn, but that if they are to learn, they will need to be taught in new ways. It is not enough to do the old things a little bit better or a little bit more.

Title III has provided the encouragement for educational innovation which is one of the great national needs. It has made possible a cooperative effort between local school districts, state departments of education, the federal government, and leading educators in seeking out the very best in creative educational experimentation. The program has made it possible for school systems to explore new kinds of schools such as educational parks, supplemental learning centers, and community schools. It has brought the rapid developments of educational technology within the realistic reach of local school systems. It has encouraged cooperative programs between elementary and secondary schools and colleges and universities. Innovations are commonplace today which would have been regarded as beyond practical possibility before the enactment of the Elementary and Secondary Education Act.

Amendments passed by the House of Representatives threaten to destroy the very fabric of which these successes have been made. By giving total responsibility for Title III programs to the state departments of education which in many cases are ill-prepared to assume those responsibilities, the House amendments would in effect cancel out a program which is making a major contribution to the improvements of American education.

The AFL–CIO strongly urges this subcommittee to reject the block grant approach to Title III of the Act as adopted by the House. Title III programs, conceived and carried out under the Act, have been imaginative and innovative. More such programs—not less—should be started. We are fearful that the amendment adopted by the House runs contrary to this purpose. A full block grant to the states, we believe, will only discourage the development of new exemplary educational programs that would otherwise serve as models for regular school programs.

COMPREHENSIVE PLANNING

Title I–D of S. 1125 provides a new program under Title V of the Elementary and Secondary Education Act. The new program would provide federal funds for the support of statewide long-range educational planning. We believe that this proposal identifies an important educational need. In a sense Congress has

helped to create that need by the very actions which it has undertaken to improve the educational opportunities for our nation's children and young people. After years of stalemate on the issue of federal aid to education, Congress began to meet the problem by passing legislation designed to meet specific and identifiable needs.

The National Defense Education Act, as first passed, recognized a special national interest in the quality of teaching in science, mathematics and foreign languages. As other national interests in specific subjects were identified, these subjects were added by amendments to the original Act. Public Law 874 recognized the impact of federally affected areas and provided federal assistance for the operation of schools in these areas. P.L. 815, dealing with the same type of problems, provided federal funds for school construction.

CIVIL RIGHTS

Provisions of the Civil Rights Act provide federal assistance to schools attempting to eliminate segregation and its related problems. Many of the provisions of the Economic Opportunity Act of 1964 bear upon educational needs. Special legislation has been enacted to improve educational opportunities available to handicapped children. The Vocational Education Act of 1963 provides substantial federal support in a field of major educational importance. We could go on at length extending the list, because recent Congresses have been extraordinarily productive in the field of educational legislation, thanks in great part to your very constructive work, Mr. Chairman, ably assisted by your colleagues on this subcommittee and the full committee.

We believe that in adopting this categorical approach, Congress made a wise decision. Yet in so doing Congress created a new need. If school systems are to make the best possible use of the funds available to them under this wide variety of programs, they must undertake far more comprehensive planning than any in which they have previously engaged. They must systemically identify their needs, organize them into a coherent pattern, and relate them to all of the available funds under existing federal programs.

The addition of federal funds for educational planning will do much to help meet this growing need. The proposed amendment involves a small expenditure which will make possible the best use of the very substantial expenditure which the federal government is now making in the field of education. The AFL–CIO urges this subcommittee to support this proposal for comprehensive educational planning.

Among the amendments adopted by the House of Representatives is one which would prevent the Department of Health, Education and Welfare from holding up approval of new applications from school districts which are not in compliance with Title VI of the Civil Rights Act until these districts have been through the entire funds termination process. We emphatically support the present provisions of the law as opposed to this House amendment which would encourage and in effect subsidize continued defiance of the law by recalcitrant segregationist-minded school districts. The most recent report of the United States Civil Rights Commission reveals that thirteen years after the Supreme Court decision of 1954 and three years after the enactment of the Civil Rights Act of 1964, 75% of the Negro children in Southern and border states still attend all-Negro schools. This should be persuasive evidence that the Department of Health, Education and Welfare has not been overly zealous in enforcing Title VI of the Civil Rights Act. The Senate should by all means reject the House-adopted Fountain amendment and permit HEW to continue operating under the provisions enacted in 1966.

VOCATIONAL EDUCATION

Title II of S. 1125 deals with Amendments to the Vocational Education Act of 1963, especially the establishment of a $30,000,000 program of grants for the purpose of stimulating innovative programs in vocational education. This proposal is being considered by the House in a separate bill, H.R. 8525, and we have filed with the House a statement of strong support for the proposals.

We are not especially concerned whether this program be enacted as a part of S. 1125 or, as in the House, in separate legislation. We do however urge its adoption in one form or the other.

To conclude, we believe that S. 1125 continues and extends the important gains which have been made in elementary and secondary education. At its spring meeting in February of this year, the AFL–CIO Executive Council declared in a statement on "Education and the Federal Government:"

"The laws which have by now been enacted have contributed significantly to improving educational opportunity and toward achieving the goal of providing quality education for every child, wherever he may live and whatever his family background. From pre-kindergarten programs through graduate schools and adult education programs, the federal government has assumed responsibility for sharing in the costs of education."

For the vital role which this committee has played in bringing these things to pass, we express our deepest gratitude.

Thank you.

Senator MORSE. The subcommittee thanks you very much for this very clear and unequivocal statement. It is a statement that is going to receive the most careful consideration, I can assure you, of this subcommittee in the markup of the bill. It has to appraise the totality of the record that has been made in these hearings by the various witnesses that appeared before us.

Senator Yarborough, do you have any questions?

Senator YARBOROUGH. None at all. Thank you, Mr. Chairman. Thank you, Mr. Biemiller, for the usual very forceful statement you made.

Incidentally, yesterday I went to my office and worked about 8 hours on the mail. One magazine I looked at was a publication of the federations of the AFL–CIO. I turned through all of them. Most of it was not about labor per se. Most of this issue was on the problems of American people. One was an article on the draft. You have a compelling table there. I wish I had it here, Mr. Chairman. It shows in one high school in the wealthier section of the District of Columbia the chances of a boy being drafted was about 1 out of 20.

Now, a poorer District school, the chances of being drafted are very heavy. It showed that this deprivation of education went further than the earning capacity in life, to determine whether or not he would be drafted into military service.

Mr. SESSIONS. As the author of the article, I would like to thank you, Senator.

Senator YARBOROUGH. You wrote the article?

Mr. SESSIONS. Yes.

Senator MORSE. I shall read it.

Senator YARBOROUGH. Congratulations. It is a very perceptive study. As usual, the man that did the work did not get credit for it.

Mr. BIEMILLER. May I just add as a comment on the general remarks you made, the AFL–CIO was very disappointed when the Senate Armed Services Committee saw fit to give in to the House on the question of deferment of college students under the draft. We felt that the provision passed by the Senate made a lot more sense than those that passed by the House, and were finally accepted by the conference committee.

I have been around long enough to know that the conference committee cannot always judge why things are done.

I repeat, we thought the Senate handled this problem in a much fairer way than the House did. We regret that the Senate version did not stand.

Senator MORSE. That is one of the reasons I voted against the bill.

Thank you very much, Mr. Biemiller.

Our next witness is Mr. Carl J. Megel, legislative representative, American Federation of Teachers, AFL–CIO.

STATEMENT OF CARL J. MEGEL, AMERICAN FEDERATION OF TEACHERS, AFL–CIO

Senator MORSE. Mr. Megel, we are very happy to have you testify on behalf of the American Federation of Teachers, AFL–CIO.

I have your prepared statement before me. I am going to insert it in the record at this point.

You are privileged to summarize it or read it, depending on your own preference.

Mr. MEGEL. Thank you, Mr. Chairman. I am delighted to have this opportunity to appear before the subcommittee and I would ask that my complete statement be inserted in the record.

(The prepared statement of Mr. Megel follows:)

PREPARED STATEMENT OF CARL J. MEGEL, LEGISLATIVE REPRESENTATIVE, AMERICAN FEDERATION OF TEACHERS, AFL–CIO

My name is Carl J. Megel. I am the legislative representative of the American Federation of Teachers, a national, professional teachers' union of more than 140,000 classroom teachers, affiliated with the AFL–CIO.

Our organization embraces 660 teacher locals, including locals in Hawaii, Alaska, the Canal Zone, the Department of Defense Overseas Dependents Schools, and in the Department of Interior Indian Schools.

Representing the American Federation of Teachers, I am privileged to appear before this Committee in support of S. 1125, a bill to strengthen and improve programs of assistance for elementary and secondary education by extending authority for allocation of funds in various areas. Principally, these include:

1. Providing assistance for comprehensive educational planning; and
2. Improving programs of education for the handicapped and for vocational education.

By the end of this semester the Elementary and Secondary Education Act of 1965 will have been in existence for two full years. Because of misunderstandings, local prejudicial resistance, and unfamiliarity with procedural requirements, the implementation of the original Act lacked immediately full-scale adoption. Today, the reverse is true. According to reports which we have received from our locals, nation-wide support is everywhere in evidence for extension, improvement, and increased revenue allocations. These reports confirm President Johnson's statement, when he said, "I believe that future historians when they point to the extraordinary changes which have marked the 1960's will identify a major movement forward in American education."

Much credit, Mr. Chairman, belongs to members of the Subcommittee on Education, with special commendation to you personally for the leadership which you have exercised and for the years of effort which you have given to advancing our nations' educational opportunities.

Representing the American Federation of Teachers in support of the passage of this legislation, I do so with the approval of the Executive Council of the American Federation of Teachers and with a general mandate from the National Convention of our organization. Unfortunately, our enthusiasm for this legislation is diminished because of its limitations, even though we support the general intent.

Following the passage of the 1965 Elementary and Secondary Education Act, we confidently expected that amendments proposed by the 90th Congress would not only provide for extension of the Act, but at the same time would include substantial increases to complement our nation's advancing educational needs.

We are distressed by the failure to provide for the increasing need for vocational education, school construction, or teacher salaries.

In spite of the assistance provided by the Federal government for education throughout the nation, I regret to report that in terms of qualified teachers and adequate facilities, our schools are actually worse off than they were two years ago. In general, teacher shortages are increasing. Most recent figures show that the number of teachers in the United States who do not meet minimum requirements established for certification in their state is actually increasing. In 1965, 81,800 such unqualified teachers were teaching in our schools. However, during the past school year, this number has increased by 8,700, so that 90,500 such teachers are found in our schools.

It can be accurately forecast that the 1967 school year will begin with more than 100,000 such teachers in the classrooms of our nations' schools. Nationwide, this shows that 4.8 percent of the entire teaching staff did not meet state requirements in 1965. Yet, this figure increased to 5.1 percent in the fall of 1966 and will, no doubt, increase to approximately 6 percent in the fall of 1967. During this space and atomic age, America's children deserve competent, highly qualified teachers.

We have always been complimentary of legislation that specified that employment of personnel shall be at the prevailing wage. In all of our previous testimony in support of educational legislation we called specific attention to the fact that one of the unfortunate omissions was the failure to provide direct funds or incentives for increased teacher salaries.

As in the past, we sincerely urge that a professional teachers' salary schedule beginning at an amount of no less than $7,000 and increasing to at least $14,000, in no more than ten steps be established as a national norm and that funds and incentives be incorporated to make such a salary schedule possible.

It is a known fact that many teachers shun assignment to disadvantaged schools. To attract teachers to these areas, some officials have proposed "combat pay", aggregating $1,000 to teachers who would accept such transfers. We oppose such devices as demeaning to the students and as besmirching the dignity of a teacher.

Instead, we strongly urge the adoption of the AFT More Effective School Program, now in highly successful operation in some thirty-five New York City slum area schools and recently approved for introduction into several other school systems.

The American Federation of Teachers' More Effective Schools Program is based on an over-all plan devised to meet the needs of the disadvantaged schools of today. It makes recommendations as to housing, class size, staffing and instruction.

The very fact that requests by teachers to transfer to the More Effective Schools exceeds the number of vacancies attests to the effectiveness of the program.

Housing is an important element of the More Effective Schools program. Yet, S. 1125 makes no general provision for school construction. Available data show that we are now short 104,000 classrooms throughout the nation. This means that between 2 and 3 million students are crowded into already overcrowded classrooms, thereby depriving 5 to 6 million students from functional educational opportunities.

Educational deficiencies are the overwhelming causes of the present urban-social unrest. In the early 1950's, in addressing the Board of Education of one of our large cities. I pointed out that the projected school population for the coming ten-year period required enormous increases in school construction.

The then President of the Board of Education stated quite unctuously that "this Board has more than it can do to take care of its present problems and cannot be concerned about what happens ten or fifteen years in the future." To which I remember having replied, "Mr. President, unless you take care of these deficiencies now, someone will pay dearly for your negligence." In city after city, across the nation, millions of people are now paying dearly for the neglect of our school system.

One excellent example can be found in Negro education in America. Many people thought that the 1954 Supreme Court Decision ordering school desegregation would solve the problem. They could not have been more wrong.

This year, more than 400,000 Negroes will reach the age of 18. Nearly two-thirds of these are high school dropouts. Yet, more tragically those who did graduate from high school, on the average, reached a level of no more than 8th or 9th grade. Less than one-tenth of our Negro boys and girls acquired the equivalent of a complete high school education. The failure to give even the equivalent of a modest

blue-collar education to nine-tenths of our Negro youth is one of the most sinister and inherently dangerous of all of our current American failures. Yet, this example does not include the thousands and thousands of children of other ethnic groups whose disadvantaged educational opportunities are equally as distressing.

In view of the extent of these deficiencies, the appropriation for the legislation now being considered should be doubled and tripled in a massive effort to overtake at least some of the shortages now existing at the local level.

We sincerely urge your earnest consideration for the establishment of such a massive program through which adequate funding for disadvantaged and handicapped boys and girls and for our Indian schools would be possible. And, additionally, increased appropriations would provide funding for a More Effective Schools program on a national basis, for a teacher aide program, and for increased vocational education opportunities.

We are certain, Mr. Chairman, that you understand the depth of the needs in all of these areas, and we are confident that you and your Committee will exercise your valiant efforts to capitalize upon the rare opportunity which this critical period demands.

Moreover, Mr. Chairman, we strongly urge that the formula established in 1965, which has worked so successfully during the past two years, be retained without substantive changes.

Senator YARBOROUGH. Mr. Chairman, may I make one point?

I want to say, of course, that each State has its own peculiar problems. In my own State, the adults—20 years of age and over—ethnically, we group them into three rough classes. The Anglos, the Negroes, and the Mexican Americans. The Anglos include all the white, non-Latin, non-Mexican Americans.

Of these groups, the Anglos—so classified—have completed the average of 12 years of education.

The Negroes have completed 9 years of education.

The Mexican Americans, four and seven-tenths years of education.

The Mexican Americans in my State greatly outnumber the Negroes. The Negroes are about 11 percent of the population. The Mexican Americans are some 15 or 16 percent. So, as a group, the Negroes are far better educated and earn more money in my State.

So when you mention the groups that are more disadvantaged, my State is one that is peculiarly in that category. We regret it. We are trying to do something about it. Thank you very much.

Senator MORSE. Thank you very much.

HANDICAPPED CHILDREN AND INDIAN CHILDREN EDUCATION FUNDING

In your statement, you refer to adequate funds for the disadvantaged and handicapped boys and girls and for Indian schools.

We have recommended to the chairman of our full committee the appointment of a special subcommittee to deal with the Indian school education problem because all of the evidence we have received to date satisfies many of us at least, that we are just failing in connection with Indian schools, and in the education of Indian boys and girls in many parts of the country.

We would like to see a rapid integration of the Indian boys and girls into our public schools. That means we have to deal with a problem that you commented on really, in connection with it is Negro education; the difficult problem of the adjustments that must be made when you put Indian boys and girls into the public schools because their background, in too many instances, has not prepared them for the competition of the public schools.

Now, it is easier if you get them at the kindergarten and first grade level, but we have here, really, a social and a mores problem that has to be resolved to meet the needs of the Indian child so that he or she can compete with the children of other groups in the public schools.

The point that you make on Negro schools gives us great concern because in many of these Negro schools they are segregated schools, still, in spite of the 1954 decision which you referred to. As you pointed out the decision has not brought the results so many thought it was going to bring as far as the educational processes are concerned. When children complete the Negro high school, they have the equivalent of an eighth or ninth grade education instead of a 12th grade education. So you get very small percentages of them that are capable of going on to college. If they do, they can too easily become college dropouts. I am speaking about the general public colleges which are integrated.

So over the past 50 years, we have seen something else develop in the higher education ground.

I don't make a blanket comment applying to all Negro colleges; but I have talked to many Negro academic men in charge of the small Negro colleges across the country. They have had to maintain academic standards which they will tell you privately are lower than the academic standards of an average integrated college. It is remarkable that they do as well as they do.

I would be the last in this subcommittee to suggest that those colleges are not to be supported, and supported in a way that would help to improve their standards as rapidly as the students that are admitted to them are qualified to meet higher standards. But to do this we have to get back to the grade school and the high school that Negro students come from in order to prepare them for college admission.

We have to do it in the District of Columbia.

Mr. MEGEL. That is very true.

DISTRICT OF COLUMBIA SCHOOLS

Senator MORSE. Just take a look at the statistics. As you well know, in the District of Columbia, what confronts us in connection with the dropouts in the high schools of the graduates of the grade schools in the District of Columbia. Too frequently in spite of all the effort that our school authorities have made—and they have been dedicated and devoted in their work in the grade schools in the District of Columbia—there are still too many schools that are so low in their academic standards that their graduates are doomed to drop out in high school. Many of those that go on to graduating from our high schools, are doomed to drop out in college. That is why I am so thankful that we have enacted, at long last, legislation signed by the President, that is going to set up types of public institutions of higher education in the District. One would correspond to a community college. The other one would correspond to a technical institute; an institute for the training of the young men and women in the District of Columbia that cannot afford to go to a private institution for higher learning, because that is the only choice they have, without the creation of these new institutions.

But the point I want to make is to supplement and support what you clearly lay out in your testimony here this morning. We have got to

meet the problem of upgrading our grade schools and our high schools for the Negroes and may I say also, for the Puerto Ricans in other parts of our country where they are a minority group with a serious educational problem. That is why I think it is so important that some of the suggestions pointed out in your testimony this morning be implemented, including the matter of construction.

SCHOOL CONSTRUCTION

I think the bill is weak in that we don't have a section in it that makes it perfectly clear that funds, depending upon the wisdom of those responsible for the expenditure of the funds, can be spent for facilities construction if they decide that construction is their greatest need.

Now, what the Department tells us—the usual answer to you is, "This is not a school construction bill. You are going to have to wait for that." I don't know how long you have to wait for it.

The only point I want to make is you cannot separate facility needs from other educational needs in trying to upgrade the educational processes in a given school district and further, if the educational authorities in that district think that the greatest need they have is for a school building or an addition to a school building, or for remodeling that is going to put in a chemistry laboratory which they do not now have, we will say, or some other facility, I don't want this elementary-secondary bill subject to the interpretation that to do so would be a misuse of funds.

So I serve notice now that I am going to try to get some language in this bill that will make it possible, if there can be a showing that that is the need of construction in the school district, that they can use some of their money for construction.

"SPECIAL SERVICES" PAY

I have one semantic suggestion to make to you. Semantics are sometimes very important from the standpoint of the psychological acceptability of a program. You say that some officials have suggested "combat pay." I would like to suggest, "special services." I think it will have less negative effect than to use the words, "combat pay." That is what you are paying for—a special service, when teachers go into the ghettos. It calls for special dedication. It is a special service, and I think when you come to the teachers' salaries in the ghetto schools, they are entitled to some special salary considerations for the special service that they are really rendering to society by that kind of dedication.

Mr. MEGEL. Thank you, Mr. Chairman.

TEACHER RECRUITMENT

Senator YARBOROUGH. Mr. Megel, I am disappointed in this data, that we have worsened our schools insofar as having an adequate number of qualified teachers in the past few years. In 1958, I was a coauthor of the National Defense Educational Act of 1958. We attempted to make it a scholarship act. We failed by two or three votes.

It became a loan act. Then we attempted to write off entirely, 20 percent a year for 5 years; entire forgiveness of the loan for those who would enter teaching as a profession. We failed by a few votes.

I had in the act a provision, the first act of 1958, for writing off the 50 percent of the principle of the loan; 10 percent a year for 5 years to those students that would enter teaching as a profession. Now, despite that, and other grants to help frame more teachers, we have a greater shortage of qualified teachers and a large number of those teaching are on these temporary certificates or something to say, "They are not qualified. We will let them teach this year."

To what do you ascribe this growing shortage?

Mr. MEGEL. The increased school population.

First of all, school deficiencies are nationwide. Since 1930, very few buildings were built until the late fifties and the early sixties. The increase in school population has been increasing yearly, and even with Federal funds, we have not begun to catch up. Therefore, the shortages are going to continue. We have continued shortages in school classrooms. We have teacher shortages. Overcrowding in the classrooms has caused many teachers to leave the profession. The present "life of a teacher" is about 5 years on the average, which produces a continual turnover. In order to secure additional teachers, school administrators are issuing temporary certificates.

Senator YARBOROUGH. We heard statements by school administrators that to get quality education into the more undersirable buildings, teachers don't want to teach in, they no longer give them their choice but tell them to go in there. When they do, unless they go there voluntarily, they are driving those teachers out of the profession, are they not?

Mr. MEGEL. This is right. That is exactly what is happening. It relates to the point that I made, when I talked about our more effective school programs. The results in the established more effective schools are unbelievable. However, the success in the more effective schools are due to the fact that there are more teachers per pupil. Not one classroom has more than 15 boys and girls in a class. One class which I visited had 16 boys and girls with three teachers. There were 30 of us in the visiting group. We walked into the classrooms and there wasn't a single one of those children—all from the disadvantaged areas—who even looked up to notice the intrusion. They were so interested in the material they were studying that they did not even look up or stop their work.

This is the kind of a classroom system we are talking about for the disadvantaged areas. It is effective; it is working. It costs money: it costs about $900 a year to put the MES program into effect. It costs between $600 and $700 in New York to put the regular program into effect. On the other hand if you put them into any OEO programs, after they drop out of a regular program, it costs $2,000 to $3,000.

It is a lot cheaper in the long run to put them in more effective school programs at $900 and get results, than to let them drop out of the regular programs and try to rehabilitate them later.

Senator YARBOROUGH. Do you think you are going to lessen the teacher shortage by arbitrarily assigning a teacher to a ghetto who doesn't want to go there, who taught in the area where they live and

feel comfortable—do you think you will alleviate the teacher shortage by saying, "You must teach in the ghetto at no difference in pay."

Mr. MEGEL. Yes, it will.

Senator YARBOROUGH. Will that alleviate the teacher shortage? Lessen it?

Mr. MEGEL. It will increase it.

Senator YARBOROUGH. It will drive teachers out of the profession?

Mr. MEGEL. It will.

INCENTIVE PAY

Senator YARBOROUGH. You have to give incentive pay to cause a teacher to go into the rougher places.

Mr. MEGEL. Incentive pay alone is not the answer. Our teachers in the more effective schools receive the same salary as do regular teachers but the teaching conditions are better. For this reason we have had more applicants than jobs for those schools—teachers do not object to teach in the disadvantaged areas. It is not the disadvantaged children to which they object. It is the disadvantaged conditions under which they are compelled to teach. Overcrowded classes; poor equipment; 40 to 50 in a class, are the reasons for objecting. The teacher in an overcrowded classroom has the problem of maintaining discipline, at the same time trying to teach something. A good teacher wants to be a success; direct boys and girls to do a good job. Money won't buy that. Teachers need enough money to live comfortably. But very few of them will teach in disadvantaged schools merely for the money. However they gladly will go if the conditions are such that a teacher can do an effective job as a teacher.

Senator YARBOROUGH. Do you think the great buildup in the Armed Forces is one thing that has drained off manpower and resulted in any of this shortage or not?

Mr. MEGEL. Yes, I think that quite a few of our young men who are in the service would be teachers. The number of men who have taken up teaching in the last few years has been increasing. We now have more men than women in the colleges and in high schools.

Senator YARBOROUGH. The number of people in colleges now, is probably double that of 10 years ago. Is that correct? Over 6 million?

Mr. MEGEL. That is right. Also in high school. The number of men teachers in high school has increased, so that we have more men teachers teaching in high school than women. We have more men teachers in colleges and universities than women but we still have more women than men teachers teaching in the elementary schools.

Senator MORSE. You have more men teaching in high school than women?

Mr. MEGEL. Yes.

Senator YARBOROUGH. Nationwide, there are more men teachers?

Mr. MEGEL. Yes, sir. Nationwide about 52 percent of the high school faculty are men.

Senator YARBOROUGH. That is a very encouraging fact; not that we are disparaging the ladies teaching, but we think in coeducational high schools there ought to be a balance. We have had many high schools where not over 10 percent of the teachers are men.

Mr. MEGEL. That is right. Yes, sir.

Senator YARBOROUGH. It is encouraging in another facet. People consider this as a career. Often a woman was teaching until she married and then would quit. When men take that up as a career, that is more encouraging to the women teachers—that this is a good career for anybody, men or women.

DISTRICT OF COLUMBIA COLLEGES

Mr. MEGEL. First I want to compliment Senator Morse on the effort he made in promoting higher education for Washington, D.C. It was surely needed here, because 54 percent of all 1965 high school graduates went to college or university in the 1965–66 school year, but only about 15 or 20 percent of the high school graduates from Washington went to college or university.

Second the more effective schools program for the disadvantaged areas, is the most effective way that we can solve that problem of education in disadvantaged areas. A teacher who is a good teacher, will not hesitate to teach in these schools. In fact, many teachers would just love to take care of these children if they could have smaller classes and equipment and fairly decent surroundings.

In New York, they rehabilitated old stores that were empty. The New York Board of Education took these old stores and made them into classrooms. The surroundings are not luxurious but it is the fact that teachers have five, six, eight, 10 in a class. They have excellent equipment to work with. They have teaching machines of all kinds; to learn languages; to learn math; to learn reading. These students are extremely interested in their work. It was a great fascination for me to visit these schools and see that program, in operation.

This program will work in disadvantaged schools.

TEACHER PREPARATION

Senator YARBOROUGH. Do you have any data as to what percentage of the students in colleges today are preparing for teaching careers in comparison to the percentage of those, say, 4 or 5 years ago?

Mr. MEGEL. I am sorry. I do not have that.

Senator YARBOROUGH. You don't have that?

Mr. Chairman, we should have that, too.

Mr. MEGEL. It has increased.

Senator YARBOROUGH. Keeping up with the increasing enrollment in college, is my question. The percentage increase of those interested in teaching careers, has that increased in keeping with the enrollment, increase in enrollment?

Mr. MEGEL. I do not know that.

Senator YARBOROUGH. In the interest of time, I will forego further questioning.

Senator MORSE. Thank you, Mr. Megel. You have been very helpful.

Senator MORSE. Mr. Salisbury.

I am going to have to apologize to Mr. Franklin C. Salisbury who is a holdover witness from Friday. I am sorry that I delayed in calling on you until now. I did not fully understand what the general situation was. You should have been called on first. Please come and testify now.

I want to say to the American Vocational Association group that after Mr. Salisbury finishes, we will recess until 2:30 and will hear the witnesses from the American Vocational Association panel at that time. Also, that will be followed by the Responsive Environment Corporation, John Henry Martin, senior vice president; and Mr. Myles Spector.

We will hear these witnesses this afternoon.

STATEMENT OF FRANKLIN C. SALISBURY, GENERAL COUNSEL, AMERICANS UNITED FOR SEPARATION OF CHURCH AND STATE

Mr. SALISBURY. Thank you, Mr. Chairman. I am general counsel. I appear today in lieu of C. Stanley Lowell, associate director of this organization, with a prepared statement by him.

Senator MORSE. I have his statement before me. It will be inserted in the record at this point. You are free to handle it in any way you wish to handle it.

(The prepared statement of Mr. Lowell follows:)

PREPARED STATEMENT BY C. STANLEY LOWELL, ASSOCIATE DIRECTOR, AMERICANS UNITED FOR SEPARATION OF CHURCH AND STATE

Our organization, with members and locals in all the states, was established 20 years ago for the sole purpose of defending and extending this country's traditional arrangement between church and state which is frequently described as the separation of church and state. We are an educational group. I am in the legal department of Americans United and we support plaintiffs in many litigations in the church-state field, and our representatives have frequently appeared at hearings of both the Senate and the House where the legislation being considered involved church-state issues.

ADMINISTRATION OF PROGRAMS

I has become evident, Mr. Chairman, that there are two principal problems in connection with the aid-to-education legislation which you are currently reviewing. One is that in the administration of the programs involved there is apparently at times an overriding or contravening of state laws in the area of education. When billions of dollars are poured into the states for programs which are forbidden by the constitutions of some of them a serious kind of tension is created. The second is the problem of the constitutionality of certain of the programs in the light of the First Amendment which forbids Congress to make laws respecting establishment of religion. Let us deal with the latter of these problems first.

CONSTITUTIONALITY OF PROGRAMS

As the result of a 1923 decision of the Supreme Court, taxpayers have since been denied standing to sue in Federal court to challenge constitutionality of Federal expenditures. In view of this denial of standing, I strongly urged the Senate committee when this legislation first came before you to include a provision which would provide for prompt judicial review of the constitutional issue. I am pleased to recall that the committee did recognize this problem and that it did include an amendment to this effect which was subsequently passed with the Senate version of the bill. Unfortunately, this amendment was dropped by the joint conferees. We had, therefore, these provisions which in effect made possible aid to religious institutions—provisions which were of highly dubious constitutionality—and unfortunately, no ready access to the courts to test them. We have, as a result, been confronted with a strange spectacle. We have had the Federal Office of Education supplying funds for religious schools which obviously violate the laws and constitutional provisions of many states, and possibly the First Amendment as well, and the people are left without protec-

tion or recourse. The possibility that the taxpayers are being compelled to pay a tax for religion, and that Congress has made a law respecting an establishment of religion is considerable. But there seems to be no way to reach the moment of truth in the courts.

COURT TESTS

To complete this record of frustration, let me cite our experience in Dayton, Ohio, where our effort to challege expenditures of Title II funds for the libraries of sectarian schools in Americans United vs. United States was thrown out of Federal Court on the technicality of lack of standing, and the similar fate of a comparable effort in Flast v. Gardner, a New York case.

As an act of semidesperation, Mr. Chairman, my organization joined with other groups in supporting the lawsuit of Horace Mann vs. Maryland Board of Public Works. This was a case in the Maryland Court which challenged constitutionality of acts by the State of Maryland which were identical with acts being performed by the Federal Office of Education. In the Maryland Court we had no problem with standing. Hence, we were able to bring a test case in regard to four public laws of Maryland which conferred grants for construction purposes to as many church-related colleges.

Frankly, Mr. Chairman, we had thought of this as a round-about way of bringing to the Supreme Court the issue of the constitutionality of aid to religious institutions under the Higher Education Facilities Act of 1963, and also of raising a similar question in regard to the sectarian features of the Elementary and Secondary Education Act as well. In a split decision the Maryland Court of Appeals held that in the case of three of the institutions the grants were in violation of the establishment clause of the First Amendment. To our immense disappointment, Mr. Chairman, the Supreme Court refused to review this decision when it was appealed by the Maryland attorney general. It was permitted to stand as a just and proper decision, but we had failed to achieve the Supreme Court's adjudication of the issue.

What are we to deduce from this development? Let us note, first of all, that the First Amendment was initially a restraint on the Federal power only. The states could provide establishments of religion and some of them did so provide for a considerable period after the passage of the First Amendment—up until 1833, to be specific. It was only as a result of the Fourteenth Amendment that the proscription of religious establishment in the First Amendment was made applicable to the states. Now we have a curious reversal of this situation. The states are, in effect, forbidden to make grants to religious institutions because they violate the First Amendment, but the Office of Education can make them with impunity because there is no way to enforce the First Amendment upon them. As a matter of fact, Mr. Chairman, the three church-related colleges to which I referred—Western Maryland, St. Joseph's and Notre Dame—all promptly went to the Federal Government and got grants identical with those which the State of Maryland was forbidden to give! If there is any logic in this, Mr. Chairman, it eludes me.

It would seem desirable that this curious ambivalence be promptly resolved. What we would recommend, then, would be the elimination from Titles I, II and III of all provisions under which Federal aid is going to sectarian institutions. Federal assistance in the form of books, equipment and instruction to private, religious schools should be terminated at least until such time as its constitutionality can be determined.

JUDICIAL REVIEW

The Senate is certainly to be commended for having passed on a voice vote and without controversy a special bill which would permit residents of the District of Columbia to bring lawsuits designed to test the constitutionality of the sectarian features of this legislation and other related legislation. It is only to be hoped that the Judiciary Committee of the House will show interest in this bill and expedite it to the floor of that body.

I turn now to the second of the two problems in connection with this legislation—the problem of the overriding of state laws and constitutional provisions in regard to church and state. The debate in the House on aid-to-education certainly indicated that this has become a most serious matter. I recall that when the aid-to-education legislation was before you two years ago, I stated in my testimony that many of the states would encounter serious problems in the church-state area with Titles I and II, and probably with Title III as well.

I quoted at length from the constitutional provisions of a number of the states to illustrate the difficulties they would have with programs and practices set forth in the legislation which seemed on the face to be forbidden by these instruments. Experience with the legislation has amply borne out these fears, Mr. Chairman.

ADMINISTRATION OF PROGRAMS

We have, in a study published by the American Civil Liberties Union called "The Church-State Problem—A Guide for Community Groups," an account of how various Titles are being administered in regard to sectarian schools in certain areas. It shows that in New York City sectarian interests have actually preempted the programs and have operated them in such a way as to show gross favoritism to the children attending these institutions and discrimination against those so unfortunate as to be attending the public schools. Guidelines and regulations have been practically ignored and the courts have been closed to the complaints of the people. Our own studies indicate that such abuse of the program is rife in other areas, that the legislation and regulations as now drafted have invited sectarian abuse and that this invitation has been accepted.

Now we see the eroding effect on church-state separation proceed a step farther in New York State. Here the sectarians, not satisfied with the substantial benefits that have accrued to their institutions, are now making a frontal attack on Article XI, Section 3 of the New York Constitution which clearly and specifically bars use of the state's funds for churches or their schools. And what is the pretext of this drive, Mr. Chairman? So that the practice of New York State may be brought into conformity with the Federal practice! Surely the Congress will not wish to continue programs whose practical effect is to erode the protection in state laws against the tax for religion which our people have so long enjoyed.

We have, indeed, come face to face with the question as to whether the states are to be permitted any policy-making role at all, or whether they are to be altogether subsumed by the Federal power. To be specific, are the states to be permitted in their laws a tight, strict concept of separation of church and state? Or, will the Federal power simply override and beat down this concept by the sheer weight of its money power, forcing on the states programs and procedures which are specifically forbidden by their laws. To put it another way, shall the states which desire to establish and sustain a single system of public schools serving the entire community have forced on them, instead, the business of planning for and supporting various systems of religious schools as well?

SHARED TIME CASES

Consider, for example, the matter of shared time or dual enrollment between public and religious schools which the legislation diligently seeks to foster and stimulate. This issue has been in the courts of at least two states in lawsuits which were supported by Americans United. These suits were—Special District vs. Wheeler and Morton v. Board of Education. Both suits were on statutory grounds. The Missouri Court forbade such practice in the schools of that state, while the Illinois Court held it was not a violation of its laws. Rulings of attorney generals vary from state to state. Some sustain the practice; some forbid state participation. We have here a confused situation, a situation of controversy and dissension. Some public school officials are firmly convinced that shared time arrangements will undermine the public system.

Comes now into this situation the United States Office of Education which actively seeks to promote shared time in the form of jointly operated public-religious schools. In Swanton, Vermont, the Office of Education has paid a salary of $13,500 to a Roman Catholic priest to promote a public school and a center of Catholic instruction to be housed on the same campus, operated under a joint management with the escape technicality that the church will buy its own piece of land and erect its own center. The Office of Education has already expended $56,000 to prepare plans for this project and to sell it to the citizens of the area. An additional request of $97,000 has now been submitted. The plan is being pressed as a "pilot project" for the nation.

DISCLAIMER PROVISION

If there is concern for state laws and state arrangements in education, and for constitutional provisions, then we would recommend that this legislation be amended with the addition of a disclaimer which would differ from the

one which the legislation presently contains. The present law provides that if state officials are estopped by their laws from carrying out the programs of aid to religious schools that the Federal Office of Education will step in and do it anyway and will deduct the amount so expended from that state's allocation. We would recommend that in place of this provision the bill include a disclaimer providing assurance that where a state desires to expend funds only for public schools and is so confined by its constitution and laws, that no Federal aid programs overriding or contravening such provisions be effectuated in such state, and that amounts as would have been available for these programs be allocated, instead, to programs permissible under that state's laws.

The action of the House in transferring initiative and management of Title III and Title V programs to state auspices is a progressive development and it is to be hoped that the Senate will concur.

We urge alert regard for the separation of church and state as expressed in the First Amendment and state constitutions lest the commendable purposes of aid to education be unwittingly used to erode this historic and useful concept of government.

JUDICIAL REVIEW

Senator MORSE. Mr. Salisbury, I want to commend you for presenting a very objective statement of the point of view that your organization represents.

One of the most troublesome issues that I have had to deal with as chairman of this subcommittee has been this issue, throughout my years in this chairmanship—you are well aware of that record.

Some years ago, I tried to promote what I thought might very well be an earlier disposition of it in the courts by the introduction of the Morse-Clark judicial review amendment because it was perfectly clear to me and to the majority of my colleagues and the subcommittee that we were going to have to make that approach rather than a legislative approach within the education legislation itself and that went through a very interesting development.

At first, all the groups, private schools, religious schools, public schools, did not look with favor upon the amendment and urged that we not go to hearings and we had a very interesting conference which I presided over, where we had the representatives of all of the groups, and they paid their disrespects to my amendment but on a very high, dignified plane. I listened to them for a half a day. I said, "I want to tell you the conclusion that I reached after listening to you. I have all the Jews against me; I have all the Protestants against me; I have all of the Catholics against me; I have all the public school people against me. All you have succeeded in convincing me is how right I must be." They were delightful.

They wanted a postponement at least.

My recollection is it was Monsignor Hochwalt who made the proposal, asking whether I would be willing at least to postpone hearings on it for the time being until they tried to work out some understanding among themselves. So we did not proceed with hearings. I wanted to give them time. I recall quite a debate developed later on the floor of the Senate when we got our education bill to the floor of the Senate. There we were confronted with the Ervin-Cooper amendment, which was a judicial review amendment to be added to the bill.

As chairman of the subcommittee on behalf of the committee majority, I opposed that amendment, urging that it be not attached to the education bill but that it be introduced as a separate amendment, pledging that I would introduce it and I would welcome the cosponsors—

the Senator from North Carolina and the Senator from Kentucky and the Senator from Pennsylvania and others. Quite a few joined in it and we did introduce it.

Now, the essence of it passed the Senate earlier this session because Senator Ervin took it over. I was delighted to join with him as a co-sponsor in connection with his subcommittee on Constitutional Problems.

The Bill passed the Senate.

I could not agree more that what we needed was a decision on the nose, as we lawyers say, by the Supreme Court as to how far the Congress can go in making Federal funds available in this area of great controversy; namely, in what respects can Congress appropriate money under authorization legislation for expenditure in connection with private schools of religious connection.

"MARYLAND" CASE

I had hoped the *Maryland* case would do it. I think you know I spoke on the *Maryland* case several times in debates. I was hoping that the Supreme Court would take jurisdiction. As you pointed out in your statement this morning, it did not. I wished it had because it opened the opportunity, I thought, for clear decision by the Court on the first amendment.

We are going to have this trouble in some issues before us, I think, in this field of education legislation every year until we can get such a decision.

Now, you and I, I think, are lawyers too good to be curbstoning on what the result of the Ervin legislation will be if we can get it finally passed, and as I understand it—I may have to eat my words so I am going to put them in the expression of hope rather than opinion—I am hoping that with the passage of the Ervin bill, signed by the President, the procedures are outlined in there that will make it impossible for the Supreme Court to evade taking jurisdiction.

It is difficult to make the Supreme Court accept jurisdiction under the many procedural exits it has under its precedents, but on the other hand, I think it is important that all of us, irrespective of varying points of view on this issue, that all groups in the country urge the taking of such jurisdiction so that we can get this problem behind us.

I have expressed the view so many times, and do again this morning, that as far as I am concerned, I am going to keep my eyes on the interest of the boy and girl. Legislation can be so drafted that the money really goes primarily to the boy and girl, although I would be the first to admit—as I have many times—one must take a look at where it is spent, too. Legislation can be so drafted that the money can be said to remain really in the control of the student rather than the institution where it is to be spent. You might find the Supreme Court handing down some guidelines that would help us. But who knows? I am not going to sit up here as an oracle and seek to foretell what the final decision will be.

JUVENILE REVIEW

Although I know there are many that do not share this point of view, I think that those that seek, as your organization does, a decision

on the nose so to speak, on the first amendment, not only have a right to insist on it, but I think the country is entitled to it. I am hopeful, that is all I can say as of now—I am hopeful that the Ervin legislation will become the law; that various groups, such as yours, that are interested in this subject, will get a case started on its way up the ladder to the Court. I think it can all be done within the space of 2 years, maximum, if you can get the bill passed and signed. That has always been my attitude.

It is not satisfactory to a lot of people but I think on the other hand, it is the appropriate position for this subcommittee to take. But I cannot speak for the whole committee in regard to the recommendations that you make this morning as to what we should do legislatively this year on this particular legislation.

Senator YARBOROUGH. Thank you, Mr. Chairman.

I listened to your statement with great interest, Mr. Salisbury. I had misgivings about this, when this educational legislation was passed, just as I was opposed to the money formula. We so desperately needed money in the impoverished areas of the country, I voted for the legislation.

It is disappointing to me that millions of voters think this violates the first amendment but have had no opportunity to get judicial review. I think that Congress, in all honor, owes it to the people to let them have judicial review. If we have faith in the veracity of our legislation, we will not deny the people the right to test it in the courts. If we have faith that what we are doing is right, why should we be afraid of the courts?

I have been cosponsor of the Ervin amendment and I will vote for judicial review in either this act or a separate act, every time I get a chance, because I think the people are entitled to it.

I don't think we, as legislators, ought to pass something that millions think is unconstitutional and then say, "We are not going to let you test it." If they think it is constitutional, why be afraid of the courts?

There is one point that you make in here, though, that I think later, if you have data, it would be valuable to the subcommittee in a study called, "The Church-State Problem—A Guide for Community Groups."

Will you file copies of that with the subcommittee, please?

Mr. SALISBURY. Yes, with the permission of the American Civil Liberties Union who have prepared it.

Senator YARBOROUGH. You say the proof is in that document?

Mr. SALISBURY. Yes, sir.

Senator YARBOROUGH. You indicate further in regard to what happened at Swanton, Vt., you could not put it all in, but assume that that 10 lines fully depicts what happens. I think somebody wanted to go out and get a test case how to violate the Constitution of the United States, I think that does it. I cannot imagine more amalgamation of church and state, with the state financing the church.

It is not that it is just directly in violation of all of the separation of church and state that Thomas Jefferson decried; in fact, I think all

the framers of the Constitution would turn over in their graves now to see what is going on in this separation issue. I would hope that we will get legislation authorized.

Senator MORSE. The chairman has before him this pamphlet that the witness showed to Senator Yarborough when Senator Yarborough asked for documentation of the position taken by the witness.

The pamphlet is entitled, "A Guide for Community Groups; the Church-State Problem Has Been Handed on to You," published by the American Civil Liberties Union.

I am going to ask the witness to exerpt from this pamphlet the documentary material that bears upon Senator Yarborough's question, and it will be inserted in the record at this point.

(The exerpts are as follows:)

"THE CHURCH/STATE PROBLEM HAS BEEN HANDED ON TO YOU!—A GUIDE FOR COMMUNITY GROUPS" PUBLISHED BY THE AMERICAN CIVIL LIBERTIES UNION, JUNE 1967

P. 76: "In New York City the Superintendent of Schools negotiated with officers of parochial schools for nine months over the provision of that city's plan for participation by non-public school children, all without the knowledge of the members of the Board of Education or of the general public. When the plan was finally presented to the Board for ratification, although it contained many provisions which demonstrably violated the intent of Congress, the Board was faced with what amounted almost to a fait accompli and had great difficulty effecting modifications essential to bringing the plan into compliance. It may well be that no amount of community group ingeunity would have penetrated the veil of secrecy that surrounded these negotiations until the public release of the plan five days in advance of the Board's hearing, but a repetition of the pattern in other cities can be avoided if public officials are on notice that they will be called to account for such unfairness by alert citizen groups.

"As the 'case study' illustrates, most of the information needed by a community group can be obtained, though persistence and ingenuity may be required to get all of it. . . ."

The "Case Study" report begins on page 54. At page 66: "Clearly the use of public funds assists St. Mary's in maintaining programs for the benefit of its own students which are superior to the ones the Central Public School can afford. . . ."

NOTE.—See attached clippings: "Board Hit Hard on Parochial Aid", *World Journal Tribune*, Oct. 11, 1966; "Church Schools Face Cut in Funds," *New York Times*, Nov. 9, 1966; "Private Schools Ask Share in Aid," *New York Times*, Nov. 15, 1966.

[From the World Journal Tribune, Oct. 11, 1966]

BOARD HIT HARD ON PAROCHIAL AID

(By Charles Roland)

The Board of Education was accused today by Mrs. Florence Flast, president of the United Parents Assn., of favoring parochial schools to the disadvantage of public schools in distributing federal aid funds.

Mrs. Flast made her charge public after stating the opposition of the 400,000 dues-paying UPA members to the use of public funds directly or indirectly for aid to parochial schools.

Addressing delegates to the Constitutional Convention at a hearing yesterday at the Association of the Bar, she accused the board of:

•Establishing double standards of poverty for students attending public schools and those in non-public schools.

•Authorizing inequitable distributions of remedial services, favoring non-public over public schools.

•Using subtle and overt pressures on public school teachers to accept assignments in non-public schools.

•Extending aid, which Congress intended for children in poverty areas, to many non-public schools outside poverty areas.

POVERTY SCHOOLS?

As an example of the last point, Mrs. Flast said that in Queens, 12 out of 17 non-public schools certified to receive federal aid were outside the poverty area.

Since the Supreme Court desegregation decision of 1964, she said, white children have left the public schools in large numbers to enroll in parochial schools.

Admitting that parochial schools need funds, Mrs. Flast said:

"If the Constitutional Convention does not resist the mounting parochial demands for a compromising change in the language of our Constitution, it will open wide the gates for religious and political conflict and a fatal assault on public education in this country."

INEQUITIES CITED

Mrs. Flast cited the example of PS 45, Bklyn., with 1,600 Negro and Puerto Rican pupils:

"It had no after-school center for its own pupils, but one was opened to serve some 160 pupils from a neighboring Roman Catholic School.

"An inequitable distribution of remedial services is also favoring the non-public schools," she said. "Parochial schools are getting general remedial teachers in the ratio of one for every 100 retarded readers. Public schools have a ratio of one for every 212."

She charged that a remedial arithmetic program in the non-public schools has no parallel in the public schools.

OTHER COMPLAINTS

"We also have received several complaints from newly licensed teachers who had been enrolled in the Intensive Teacher Training program this summer and received assignments to non-public schools," Mrs. Flast said.

"They said that those who wished to decline were warned they could not be assured of anything but a per diem position in the public schools working in a different school every day, whereas with this assignment they would teach in two parochial schools."

Mrs. Flast said that the UPA had found instances where public school children were barred from after-school remedial centers in public schools, though parochial school children were registered in them.

[From the New York Times, Nov. 9, 1966]

CHURCH SCHOOLS FACE CUT IN FUNDS—PROPOSAL BY DONOVAN WOULD REDUCE NONPUBLIC U.S. AID

(By M. A. Farber)

Superintendent of Schools Bernard E. Donovan yesterday proposed a cutback in the aid given to nonpublic schools here under Federal legislation designed to help disadvantaged children.

Dr. Donovan asked the Board of Education, which decides the amount of money to be spent on both public and parochial schools under Title I of the Elementary and Secondary Education Act, to reduce by about 125 the number of corrective reading and arithmetic teachers assigned this year to nonpublic schools.

The teachers would be given new duties in public schools, according to a school official who estimated the financial loss to nonpublic schools at $500,000. "That would not be an unreasonable guess, but it may be more," he said.

The Superintendent's request followed charges by the United Parents Association and the New York Civil Liberties Union that parochial schools were being given preferential treatment. It is likely to bring sharp criticism from officials of nonpublic schools.

PAROCHIAL SCHOOLS 'CONCERNED'

Msgr. Raymond P. Rigney, Superintendent of Schools for the Roman Catholic Archdiocese of New York, said yesterday that he is "gravely" concerned over what appears to be a movement to curtail "services" to not only Catholic institutions, but to Hebrew, Protestant and other denominational schools as well.

The board will consider Dr. Donovan's proposal at a public hearing Monday on the $65-million programs to be funded by the Federal legislation this year. It will act on the 25 programs, which were tentatively sanctioned in August, at a regular meeting on Wednesday.

The programs, already under way though the board has yet to receive an exact allocation from Washington, provide remedial, tutorial and enrichment services during the day and in after-school centers.

Until yesterday, officials predicted that $5.3-million would be spent exclusively on projects conducted in parochial schools. The after-school centers are attended by public and nonpublic school children alike.

200 SCHOOLS INVOLVED

In August the board approved of a ratio of one publicly paid teacher to every 100 parochial school pupils in need of remedial reading or arithmetic, for service in nonpublic schools in which 10 per cent or more children receive free lunches from the Federal Government.

Under Dr. Donovan's new proposal, the ratio would be changed to one teacher for every 230 parochial school students—a ratio that the Superintendent contends is more closely comparable to the situation in the public schools.

More than 200 parochial schools have qualified for assistance under the board's "10 per cent" guideline. In September, 346 corrective reading and arithmetic teachers were assigned to the nonpublic schools for about 34,000 students.

Dr. Donovan's plan would call for the number of these teachers to be reduced to about 220, for some 50,000 students who now appear in need of help. But since one teacher can only handle about 100 pupils a week, a school official pointed out, many parochial school children will "have to wait in line" for aid. "There's no doubt about it," he asserted.

The newly proposed ratio was attacked yesterday by the Very Rev. Eugene J. Molloy, chairman of the Committee of Non-Public School Officials, which represents schools having more than 400,000 children.

Taking cognizance of the argument that parochial school students should not be favored over pupils in public schools, Father Molloy said that if the board would direct funds for public schools to improving the ratios in the institutions, the parochial schools could benefit too. The ratios "go to the heart of the program being provided nonpublic school children," he noted.

[From the New York Times, Nov. 15, 1966]

PRIVATE SCHOOLS ASK SHARE IN AID—PAROCHIAL CHIEFS SAY CITY THWARTS INTENT OF CONGRESS

(By M. A. Farber)

Parochial school leaders threatened yesterday to ask the state and Federal Government to hold up $65-million for programs here for disadvantaged children, unless assurances were given that their students would benefit "in a comparable and equitable manner" with public school pupils.

The Committee of Nonpublic School Officials, which represents 400,000 children in Catholic, Protestant, Hebrew and other denominational schools, said it was prepared to ask the State Education Department delay approval of the Board of Education's programs under Title I of the Elementary and Secondary Education Act.

Reacting strongly to recently proposed cutbacks in aid to parochial schools, the committee declared it also might ask the United States Office of Education for affirmation that "the intent of Congress in behalf of nonpublic school children has been met in New York City."

BOARD HEARING HELD

The committee expressed its views at a City Board of Education hearing on the Title I programs. They provide remedial, tutorial and enrichment services to public and parochial schoolchildren alike.

On the one hand, the board was assailed by nonpublic schools officials for doing too little; on the other it was attacked by parent and civic groups for doing too much for the parochial schools and not enough for the public ones.

Discontent with the program was voiced by Msgr. Raymond P. Rigney, Superintendent of Schools for the Roman Catholic Archdiocese of New York; Dr. Joseph Kaminetsky, director of the National Society of Hebrew Day Schools, and Rabbi Morris Sherer, executive vice president of the Agudath Israel of America.

Rabbi Sherer called for a halt to "attempts to defy the intent of Congress by restricting . . . the Federal benefits for nonpublic school children." If the attempts continued, he said, "the only logical next step would be a public Congressional investigation."

The Board of Education decides how much of the Title I funds are to be spent on both public and parochial schools. According to figures released yesterday, $49-million would go exclusively to the public schools and $3.2-million to the parochial schools. A total of $12.8 million more would be shared, with the parochial schools benefitting by as much as 40 per cent.

The board tentatively sanctioned in August the 25 Title I programs for the coming year. Final action is expected Wednesday.

Some of the programs are already underway, even though funds have not been officially allocated in Washington. Money remaining from last year is temporarily financing the programs.

If the board approves the programs tomorrow, they will be forwarded to the State Education Department, where further approval is required before Federal aid under Title I can be received by the city.

In August the board agreed to provide one publicly paid teacher for every 100 parochial school students in need of remedial reading and arithmetic. The teachers would serve in the nonpublic schools.

CURTAILMENT OPPOSED

Last week, however, Dr. Bernard E. Donovan, the Superintendent of Schools, recommended a reduction in this teacher ratio to one remedial teacher for every 230 parochial school students. The board is now considering the change.

Dr. Donovan said that the new ratio, which would mean a loss to the nonpublic schools of 125 teachers, was more in line with the situation in the public schools.

At yesterday's hearing Monsignor Rigney said that "attempts to curtail the minimal services" to the disadvantaged children in the nonpublic schools "may very well force these children" to transfer to the public schools. That result, he added, would hamper board efforts to achieve a racially balanced school system.

Taking an opposite view toward aid for nonpublic schools, the Citizens Committee for Children stated it would like to see a court test of the constitutionality of sending publicly paid teachers into parochial schools. The committee said it was particularly troubled because some public-school classes were "unmanned."

Parochial schools contend that if the public schools would upgrade the ratios of remedial help in the public schools, the parochial schools could then receive increased aid, too.

But Mrs. Howard Flast, president of the United Parents Association, said that "when the nonpublic schools begin to suggest which programs in public schools should be expanded, or financed with Federal funds, so the parochial schools can then receive the priorities they demand on the basis of comparability, this *represents an obvious and frightening intrusion of the church in public educational policy.*"

Senator MORSE. Also, may I say to the witness that he is entitled to take any other excerpts from this pamphlet that he thinks would be helpful to the subcommittee bearing on the other issues raised by his testimony and by the questions and lastly, the Chair rules that the pamphlet itself, will be filed by the witness with the subcommittee as an appendix to our hearings, but not incorporated in the transcript of the record; but available to the committee for reference as we discuss this matter in executive session.

Is that clear to the witness?

Mr. SALISBURY. Yes, sir.

Senator MORSE. Thank you very much.

We will stand in recess until 2:30.

(Whereupon, at 1 p.m., the hearing was recessed until 2:30 p.m., on the same day.)

AFTERNOON SESSION

The subcommittee convened at 2:30 p.m., after recess, Senator Morse presiding. Present: Senators Yarborough and Dominick.

Senator MORSE. The hearing will come to order.

PANEL CONSISTING OF LOWELL A. BURKETT, EXECUTIVE DIRECTOR, AMERICAN VOCATIONAL ASSOCIATION; FLOYD D. JOHNSON, PRESIDENT, AMERICAN VOCATIONAL ASSOCIATION; DR. WILLIAM G. LOOMIS, STATE DIRECTOR OF VOCATIONAL EDUCATION, SALEM, OREG.; DONALD B. BARBIERI, DIRECTOR, VOCATIONAL EDUCATION, SECOND SUPERVISORY DISTRICT, WESTCHESTER COUNTY, N.Y.; RUTH STOVALL, STATE SUPERVISOR, HOME ECONOMICS EDUCATION, STATE DEPARTMENT OF EDUCATION, MONTGOMERY, ALA.; AND DR. JEROME MOSS, JR., PROFESSOR, DEPARTMENT OF INDUSTRIAL EDUCATION, UNIVERSITY OF MINNESOTA

Senator MORSE. I think, Mr. Burkett, I will give you the honor of introducing the panel for the record. We have Mr. Floyd Johnson, president, York, S.C.; Dr. Willian G. Loomis, State director of vocational education, Salem, Oreg., who is a longtime friend of mine, I can assure you, and Mr. Donald Barbieri, director of vocational education, Mid-Westchester Center for Vocational Education, Valhalla, N.Y.; Miss Ruth Stovall, State supervisor of home economics education, Montgomery, Ala., and Dr. Jerome Moss, Jr. professor, Department of Industrial Education, University of Minnesota.

Mr. Burkett, you can present them in the order that you want to present them in. It's your seminar. I am exceedingly sorry that we don't have more members of the subcommittee here. I think Senator Yarborough will be here shortly. They are tied up in other committee meetings and debate on the floor. But you do not have to worry about the record not being read, and you do not have to worry about the record not being thoroughly discussed in the markup session, because that is one thing that I am very proud of and about in respect to my subcommittee. These records are fine tooth combed and your point of view will be very helpful to us. You may proceed in your own way.

Mr. BURKETT. Thank you, Senator Morse.

First, I want to express our deep appreciation for this opportunity to be before you and the subcommittee. We have a panel of witnesses who are representing the American Vocational Association. We are privileged to have the president of the American Vocational Association to serve as the chairman of the panel.

Mr. Floyd Johnson, a teacher of vocational education and the president of the American Vocational Association, will lead off and make an introductory statement. I will then follow and the other people on the panel will follow in line as they are seated here.

Senator MORSE. I am delighted to have you, Mr. Johnson. You may proceed in your own way. I have your full statement here.

May I say to the official reporter that the prepared statements of each panelist will be inserted in the record preceding or following his

comment thereon. The panel is free to read the statement, to digest the statement, handle it any way that he wishes to. I also hope that the panelists know that in these seminar sessions before the subcommittee you are welcome at any time to interrupt each other and to ask questions of each other. I surmise that you are educating each other as well as this subcommittee, because I don't imagine that you have met and gone over in detail everything that each one is going to say here today. So, let's make it a seminar approach, because it is most helpful to me, I can assure you, when I present this record to the full Senate that I turned to it and demonstrate in black and white the fact that these matters have not been handled pro forma but really have been handled in a seminar fashion. Will you proceed.

STATEMENT OF FLOYD D. JOHNSON, PRESIDENT, AMERICAN VOCATIONAL ASSOCIATION

Mr. JOHNSON. Mr. Chairman and members of the Subcommittee on Education, we appreciate the opportunity to appear before this committee in behalf of the American Vocational Association. Our association is a private, nonprofit professional education organization of some 40,000 members who are teachers, supervisors, administrators, teacher educators, researchers and others engaged in vocational-technical and practical arts education.

The American Vocational Association is a federation of State associations. Our primary mission is to promote, improve, and expand vocational-technical and practical arts education of the AVA.

Mr. Chairman, we have here today the executive director, Mr. Lowell A. Burkett, and four other distinguished witnesses who will address themselves to specific legislative recommendations.

IMBALANCE IN EDUCATIONAL EXPENDITURE

Before presenting each witness to the subcommittee in my capacity as chairman of this panel, there are two ideas that I would like to leave with you. First, it seems to me that there is today at the Federal level an imbalance in expenditures for various levels and types of educational programs. For higher education, Federal expenditures are $4.5 billion; for elementary and secondary education, $3.2 billion; for occupational training of various types, including OEO programs, MDTA, $1.8 billion.[1] Of the $1.8 billion, only $280 million [2] is authorized for vocational education in high schools, area vocational schools, community and junior colleges, and technical institutes, and 4-year senior colleges.

These figures clearly show that vocational education has a low priority at the Federal level; yet we know that the vocational education has relevance for 8 out of 10 of all youngsters who are enrolled in our schools. I am not suggesting that funds be cut for any of the education programs now supported by the Federal Government; I am suggesting, however, that we need to look closely at our priorities and reassess the importance of vocational education from the

[1] The Budget for Fiscal Year 1968, Special Analysis, p. 94.
[2] Includes funds authorized under Smith-Hughes Act, George-Barden Act, Vocational Education Act of 1963.

standpoint of the number of people that the program should be serving. Not only should our schools provide for the "8 out of 10"—but they should also provide programs of retraining and upgrading for adults who find themselves returning to school several times throughout a working lifetime.

VOCATIONAL EDUCATION AT ALL LEVELS

Secondly, I want to emphasize that vocational educators have the commitment and enthusiasm to provide occupational training for all those who need and want it—youth and adults at all levels of ability, including the disadvantaged, the handicapped, the retarded—all those who have a need or desire for occupational training.

Vocational education was born as an institution in our public school system 50 years ago. We believe that our experience and knowledge accumulated over this span of time uniquely qualifies us to be full partners in the process of educating persons for work. Let me cite just two instances where vocational educators have made outstanding contributions to our national well-being:

Some 12 years after vocational education became a part of the public school system, America was plunged into the depths of the worst economic depression we have ever experienced. The Federal Board for Vocational Education, the administrative agency for the vocational program at the Federal level, reported each year to the Congress and here is a brief section from one of those reports: [3]

During the past year . . . emergency vocational programs have been worked out in numerous conferences of Federal, State, and local vocational administrators and officials and representatives of emergency agencies of relief, rural rehabilitation, and home welfare. As a result of these efforts, regular vocational courses have been adapted to the emergency situation.

In the field of trade and industrial education, all types of vocational classes—evening, part-time, and all-day—have been opened for enrollment of unemployed workers, apprentice training has been organized for young workers who would without such service continue unemployed, and special classes have been organized for groups of unemployed workers. Such workers have constituted very considerable percentages of total enrollment in these types of schools.

. . . instruction has been provided to help the homemaker conserve and make the most of available resources for the family, plan out the family budget, and safeguard the health of the family. Supervisors and teachers have cooperated with relief agencies in planning out sources for adult homemakers for families on relief, or with incomes reduced by unemployment.

States and local communities have not narrowly interpreted "relief of unemployment" to mean exclusively direct service to unemployed trade and industrial workers. They have broadly interpreted their responsibilities to include services rendered to mitigate in the full measure possible by vocational training some of the appalling consequences of unemployment . . . extending throughout the fields of industry and agriculture and affecting home conditions generally and the welfare of the families of unemployed workers and distressed farmers. Vocational teachers have devoted their efforts continuously to the rendering of such relief.

STATE EXAMPLES

Cited as an example is the State of Alabama:

All vocational teachers, supervisors, and administrators in the State of Alabama gave a portion of their time toward relief work. 34,500 unemployed or otherwise distressed adult individuals were helped through their services in 1934–35.

[3] Digest of Annual Reports, Federal Security Agency, 1935.

During 1933–34, an emergency adult program in homemaking was carried on in 400 centers, enrolling 8,909 individuals in 639 classes. Regular teachers of home economics assisted the teachers of these emergency classes in planning out their work.

A second example of vocational education's response to national needs can be seen in the World War II training program when 8 million workers were trained for industry and food production. Schools were open 365 days of the year, and most of them operated 24 hours a day. Once Congress authorized the war training program, classes were underway within 30 days. Here is what some of the industrial leaders said of that program: [4]

Beyond all question of a doubt, the work you have accomplished on the short notice given to your program has been a symbol of what the American system of education can do when called upon.

This statement was made by the B. H. Aircraft Co., Inc., N.Y.

Another said:

The Lockheed Aircraft Corporation, in its efforts to produce airplanes for the United States Armed Forces, has greatly benefited by the services rendered by the Los Angeles school system. The many classes established under the War Production Training Program has aided the Lockheed Aircraft Corporation in orienting, training, and qualifying new employees for work in our factories. Literally thousands of people have been trained in the necessary basic skills and operations in aircraft frame manufacturing in order to qualify for jobs. All in all, it can be said that a close cooperation between the schools and industry has been a great factor in our Nation's ability to produce the necessary equipment for the successful prosecution of the war.

Now some statements from various States, and the one from Connecticut:

The most significant factor, perhaps, is the impression left with industry and the public as striking evidence of the sound principles by which vocational education is governed.

Kentucky:

The war training program gave great impetus to the development of 14 area schools.

Maryland:

Planning should begin immediately for a richer and wider type of vocational education appropriate to meet the needs of boys and girls in each community. Cooperative types of training, part-time employment and work experience programs, should be considered for certain school children.

Texas:

The program of vocational training for War Production Workers did much to change many citizens' conceptions of the Texas public school system. Adults receiving "war school" training came to regard the public schools as something more than an agency for training youth between the ages of 6 and 18; on the other hand, many school administrators and teachers were amazed to see adults from 21 to 60 years of age, both male and female, attend classes conducted "around the clock" seven days each week. Both groups profited.

These illustrations are made for the purpose of showing vocational education's response to major social, economic, and international problems that have confronted our Nation. This same commitment exists today. We believe that through vocational education our schools can and should become the instruments for helping all citizens realize their potential and find individual fulfillment.

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[4] Vocational Training for War Production Workers Final Report, Federal Security Agency, U.S. Office of Education Bulletin No. 10, 1946, pp. 127–128.

SUMMARY

In summary, resources for vocational education are grossly inadequate for the job that should and must be done to provide occupational training in our schools. And secondly, vocational educators are committed to the ideal of providing education and training that is consistent with the abilities and aspirations of each and every citizen. We must, however, be given resources commensurate with the task. In doing so, we can help to cure some of the social and economic ills of our Nation.

Mr. Chairman, we have a distinguished group of individuals who are leaders in the field of vocational-technical and practical arts education who will present statements here. We will begin with Mr. Lowell A. Burkett, who is executive director of the American Vocational Association.

Senator MORSE. I would like to have the attention of Senator Yarborough for a moment because the procedure will be dependent upon his time.

Would the Senator prefer to ask questions of the panelists after they have all presented their case?

Senator YARBOROUGH. I agree with the Chairman's suggestion, and I think it's very helpful. I had other commitments at 3:30, Mr. Chairman. I have postponed them to 4 in hopes that we might be able to hear this. I think this is a very important facet of American education.

(The prepared statement of Mr. Johnson follows:)

PREPARED STATEMENT OF FLOYD D. JOHNSON, PRESIDENT, AMERICAN VOCATIONAL ASSOCIATION

Mr. Chairman, members of the Subcommittee on Education, we appreciate this opportunity to appear in behalf of the American Vocational Association. Our association is a private nonprofit educational organization of some 40,000 members who are teachers, supervisors, administrators, and teacher educators in vocational-technical and practical arts education.

The American Vocational Association is a federation of State associations. Our primary mission is to promote, expand, and improve vocational-technical and practical arts, education.

Mr. Chairman, we have here today our executive director, Mr. Lowell A. Burkett, and four other distinguished witnesses who will address themselves to specific legislative recommendations. Before presenting these individuals to the subcommittee in my capacity as Chairman for the group, I am going to speak briefly as a spokesman for vocational education teachers and administrators of this Nation.

There are two ideas that I would like to leave with you. First, it seems to me that there is today at the Federal level, an imbalance in expenditures for various levels and types of educational programs. For higher education, Federal expenditures are $4.5 billion; for elementary and secondary education, $3.2 billion; for occupational training of various types, including OEO programs, MDTA, $1.8 billion.[1] Of the $1.8 billion, only $280 million is authorized for vocational training in high schools, area vocational schools, community and junior colleges, and technical institutes.[2]

These figures show that vocational education gets a low priority at the Federal level; yet we know that the vocational, or occupational training, has relevance for 8 out of 10 of all youngsters who are enrolled in our schools. I am not suggesting that funds be cut for any of the education programs now supported by the Federal Government; I am suggesting however that we need to look closely at our priorities and reassess the importance of

[1] The Budget for Fiscal Year 1968, Special Analyses, pp. 94.
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vocational education from the standpoint of the number of people that the program should be serving. Not only should our schools provide for the "8 out of 10"—but they should also provide programs of retraining and upgrading for adults who will find themselves returning to school several times throughout a working lifetime.

Secondly, I want to emphasize that vocational educators have the commitment and enthusiasm to provide occupational training for all those who need and want it—youth and adults at all levels of ability, including the disadvantage, the handicapped, the retarded—all those who have a need or desire for occupational training.

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Some 12 years after vocational education became a part of the public school system, America was plunged into the depths of the worst economic depression we have ever experienced. The Federal Board for Vocational Education, the administrative agency for the vocational program at the Federal level, reported each year to the Congress. Here is a brief section from one of those reports: [1]

"During the past year . . . emergency vocational programs have been worked out in numerous conferences of Federal, State, and local vocational administrators and officials and representatives of emergency agencies of relief, rural rehabilitation, and home welfare. As a result of these efforts, regular vocational courses have been adapted to the emergency situation.

"In the field of trade and industrial education, all types of vocational classes—evening, part-time, and all-day, have been opened for enrollment of unemployed workers, apprentice training has been organized for young workers who would without such service continue unemployed, and special classes have been organized for groups of unemployed workers. Such workers have constituted very considerable percentages of total enrollment in these types of schools."

. . . "instruction has been provided to help the homemaker conserve and make the most available resources for the family, plan out the family budget, and safe-guard the health of the family. Supervisors and teachers have cooperated with relief agencies in planning out sources for adult homemakers for families on relief, or with incomes reduced by unemployment."

"States and local communities have not narrowly interpreted 'relief of unemployment' to mean exclusively direct service to unemployed trade and industrial workers. They have broadly interpreted their responsibilities to include services rendered to mitigate in the full measure possible by vocational training some of the appalling consequences of unemployment . . . extending throughout the fields of industry and agriculture and affecting home conditions generally and the welfare of the families of unemployed workers and distressed farmers. Vocational teachers have devoted their efforts continuously to the rendering of such relief."

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"During 1933–34, an emergency adult program in homemaking was carried on in 400 centers, enrolling 8,909 individuals in 639 classes. Regular teachers of home economics assisted the teachers of these emergency classes in planning out their work."

A second example of vocational education's response to national needs can be seen in the World War II training program when 8,000,000 workers were trained for industry and food production. Schools were open 365 days of the year, and most of them operated 24 hours a day. Once Congress authorized the war training program, classes were under way within 30 days. Here is what some of the industrial leaders said of that program: [2] "Beyond all questions of a doubt, the

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Another said: "The Lockheed Aircraft Corporation, in its efforts to produce airplanes for the United States Armed Forces, has greatly benefited by the services rendered by the Los Angeles school system. The many classes established under the War Production Training Program have aided the Lockheed Aircraft Corporation in orienting, training, and qualifying new employees for work in our factories. Literally thousands of people have been trained in the necessary basic skills and operations in aircraft frame manufacturing in order to qualify for jobs. All in all, it can be said that a close cooperation between the schools and industry has been a great factor in our Nation's ability to produce the necessary equipment for the successful prosecution of the war."

Some states reported:

"The most significant factor, perhaps, is the impression left with industry and the public as striking evidence of the sound principals by which vocational education is governed." (Connecticut)

"The war training program gave great impetus to the development of 14 area schools." (Kentucky)

"Planning should begin immediately for a richer and wider type of vocational education appropriate to meet the needs of boys and girls in each community. Cooperative types of training, part-time employment and work experience programs, should be considered for certain school children." (Maryland)

"The program of vocational training for War Production Workers did much to change many citizens' conceptions of the Texas public school system. Adults receiving 'war school' training came to regard the public schools as something more than an agency for training youth between the ages of 6 and 18; on the other hand, many school administrators and teachers were amazed to see adults from 21 to 60 years of age, both male and female, attend classes conducted 'around the clock' seven days each week. Both groups profited." (Texas)

These illustrations are made for the purpose of showing vocational education's response to major social, economic, and international problems that have confronted our Nation. This same commitment exists today. We believe that through vocational education our schools can and should become the instruments for helping all citizens realize their potential and find individual fulfillment.

In summary, recources for vocational education are grossly inadequate for the job that should and must be done to provide occupational training in our schools. And secondly, vocational educators are committed to the ideal of providing education and training that is consistent with the abilities and aspirations of each and every citizen. We must, however, be given recourses commensurate with the task. In doing so, we can help to cure some of the social and economic ills of our nation.

Mr. Chairman, we have a distinguished group of individuals who will bring information, ideas, and recommendations to the Subcommittee on several legislative items of great importance to vocational education. I will introduce each of them at this point. Each has a prepared statement, and will briefly summarize his or her remarks. Questions from members of the Subcommittee will be welcomed at any point.

Introductions:

(1) Mr. Lowell A. Burkett, Executive Director of the American Vocational Association. Mr. Burkett is an ountstanding vocational educator from Illinois where he was a State Supervisor of Trade and Industrial Education. He came to Washington 12 years ago as Assistant Executive Director of the American Vocational Association. Upon the retirement of Dr. M. D. Mobley whom, as you know, passed away last April, Mr. Burkett became Executive Director of AVA. He has given outstanding leadership to our profession, and I am proud to introduce him to this Subcommittee as our first witness. Accompanying Mr. Burkett are:

(2) Dr. William G. Loomis, State Director, Vocational Education in Oregon.

(3) Mr. Donald Barbieri, Director of Vocational Education, Mid Westchester Center for Vocational Education, Valhalla, New York.

(4) Miss Ruth Stovall, State Supervisor of Home Economics Education, Alabama.

(5) Dr. Jerome Moss, Jr., Associate Professor, Department of Industrial Education, University of Minnesota, Minneapolis, Minnesota.

Senator MORSE. All right. Mr. Burkett, you may proceed, then.

STATEMENT OF LOWELL A. BURKETT, EXECUTIVE DIRECTOR, AMERICAN VOCATIONAL ASSOCIATION

Mr. BURKETT. Thank you, Mr. Chairman. I would like to express our deep appreciation for the leadership. Senator Morse and Senator Yarborough, that you gave in the passage of the Vocational Education Act of 1963. This act has been a historical piece of legislation and has yielded great benefits to the American people. I know of no program in education or, in fact, any other institution of our society that has responded as quickly to the needs of our people and as affectively as vocational education has since 1963. And we wish to take this opportunity to thank you for your leadership in this field.

Senator MORSE. I am not going to interrupt very much, but I want to say that your association supplies us with the evidence and the facts we primarily used in that debate, so you have the same responsibility as you meet with us today as we pursue further legislation or seek further legislation on the subject.

Mr. BURKETT. I would like to say that the Smith-Hughes Act of 1917 provided a very sound basis for vocational education. It created what I would think is a model for a Federal-State-local partnership in education. We have found this to be a very fine partnership, and we would hope that any legislation that is enacted in the future will continue this same type of relationship because it has been very good and very effective.

We have built up in this country a very strong relationship between these three levels of government.

VOCATIONAL EDUCATION AMENDMENTS OF S. 1125

The subject of this testimony, of course, is S. 1125. We felt it imperative that we not only speak to title II of S. 1125, but we wish to speak in terms of total needs in vocational education as seen today. We will speak to S. 1125 and title II, and also, I hope to bring to you some facts and figures regarding the needs for expanding and improving vocational education through amendments to Public Law 88–210, or the Vocational Education Act of 1963.

First, let me say that we support the concept embodied in title II of S. 1125. We recognize the importance of title II which will provide an opportunity for innovative and exemplary programs in the field of vocational education. We are always willing and eager to find new ways and better ways of doing the job which is ours to do. However, we see the need to expand and improve what we are already doing to further serve the needs of people and to continue with the work we already have.

FUNDS NEEDED FOR VOCATIONAL EDUCATION

You will note in my printed statement the resolution that was passed by the House of Delegates of the American Vocational Association at its last annual convention in December of 1966, which supports the concept embodied in title II of S. 1125. But further, I would like to

call your attention to page 4 and a study that was made this spring by our association to determine the amount of Federal funds needed to adequately serve the needs of all those persons who need or desire such education.

This summary is found near the middle of the page, which is a summary of AVA study No. 1–1967, reported on February 6, 1967.

This study was conducted in fiscal 1967. We asked each State department of education to furnish us with estimates of their total needs for Federal funds to adequately meet the demands for vocational and technical education.

In fiscal year 1967, $266,418,820 was appropriated for expansion and improvement of vocational education. The States reported that a minimum of $403.8 million could have been used effectively and efficiently.

In fiscal 1968 the States have given a conservative estimated need of $547 million and the appropriation is a woefully inadequate amount of $283 million.

We cannot begin to meet the total needs as the States have seen it in this current fiscal year with the Federal funds that are being appropriated.

In fiscal 1968, local and State entities will invest $875 million in the program—thus contributing an average of $3.50 State and local dollars for every $1 of Federal funds. In fiscal 1970, the States have provided an estimated need of $1.2 billion Federal funds to serve an estimated 8.3 million students.

Enrollments are growing substantially in vocational education. In fiscal year 1967, nearly 7 million people were enrolled in vocational education programs. We estimate an increase of approximately 700,000 students this year.

CONSTRUCTION NEEDS

A continued critical need in the field of vocational education is for construction, equipping, and remodeling vocational education facilities. While many new facilities have been constructed since the enactment of Public Law 88–210, there are still many vocational programs that are housed in basements and old buildings. This, in itself, has had a tendency to downgrade the prestige of vocational education. And the needs for expanding the program and serving literally hundreds of thousands of new students require that new facilities be constructed and equipped as quickly as possible.

According to our study, the States need a minimum of $313 million for construction and equipping facilities in fiscal year 1968.

RESIDENTIAL SCHOOLS

While the Vocational Education Act of 1963 authorized funds for residential schools, funds have not yet been appropriated for this purpose—5 years after the passage of the act.

In fiscal 1968 the States have estimated they could effectively use as many as 65 residential schools at an average estimated cost of $4 million for each school. The estimated operating costs of one residential school for 1 year per student is $2,000. This figure includes both educational and residential costs.

TEACHER RECRUITMENT

Another critical need in vocational education is finding teachers. In fiscal 1967, 121,870 teachers were employed both full time and part time. However, we need approximately 128,000 teachers. So you can see that we are about 7,000 teachers short in fiscal 1967. And according to our study, we will need an estimated 165,000 full- and part-time vocational teachers in fiscal year 1970. So, in the next 36 months we must prepare some 44,000 new vocational education teachers.

A woefully inadequate amount of funds are spent for teacher education. In fiscal 1966, a little more than $2 million was spent at the local level, almost $7 million at the State level, and $5.5 million at the Federal level was invested in teacher training programs.

It is absolutely imperative that Federal support for teacher education for both preservice and inservice programs be greatly expanded. Funds are direly needed for scholarships, internships, and fellowships in this field. Our study revealed that a minimum of nearly $30 million is needed for these purposes a scant 2 years away.

VOCATIONAL WORK STUDY

One of the most successful aspects of Public Law 88–210 has been the vocational education work-study program whereby the students who are enrolled in vocational education programs could obtain part-time employment to enable them to remain in school.

In fiscal year 1967, the States could have used approximately $25 million for work-study programs. Yet the Federal appropriation was only $10 million for work-study.

Research is very important in vocational education in order that we might find new and better ways to improve the field of vocational education.

The appropriation for fiscal year 1968 for research is $13,550,000, yet the States could use close to $20 million in projects that are already conceived and ready to go but cannot be funded this year because of lack of funds.

EXTENSION OF PROGRAMS

Mr. Chairman, the work-study aspect of the Vocational Education Act of 1963 will expire at the end of this year. If this program is to be continued, it's imperative that Public Law 88–210 be amended in order to further extend the work-study program. Otherwise, this program, a very valuable program, will not be in effect during fiscal year 1969. We urge that you give careful consideration particularly to this part of the act and that it be extended and expanded in years to come.

Briefly, this is a summary of my prepared statement. Dr. Loomis is our next panel witness.

(The prepared statement of Mr. Burkett follows:)

PREPARED STATEMENT OF LOWELL A. BURKETT, EXECUTIVE DIRECTOR, AMERICAN VOCATIONAL ASSOCIATION

Thank you, Mr. Chairman, and members of the subcommittee, for this opportunity to appear before you in support of legislation to expand and improve vocational education. In considering this legislation, we believe that you are

showing a concern for one of the most important issues before this session of the 90th Congress.

Fifty years ago, President Woodrow Wilson signed into law the Smith-Hughes Act to provide the first Federal support for vocational education. As a result of this Act, there was created a Federal-State-Local partnership in vocational education. We hope that any action taken by this subcommittee with respect to vocational education will seek to strengthen and improve this cooperative endeavor.

As educators, and concerned citizens, members of the American Vocational Association are encouraged with the increased attention and support given in recent years to education at all levels. While our primary concern is that of providing quality education for employment, we recognize that all youngsters should acquire the basic skills of communication, and the knowledge and insight to enable them to become mature and responsible citizens. At the same time, many youngsters (8 out of 10 of those now enrolled in our public schools), must have access to vocational programs designed to prepare them for employment at whatever level their aptitudes, abilities, and aspirations will permit. These pursuits are not mutually exclusive; each complements the other.

The Vocational Education Act of 1963 has resulted in many program innovations, expansion of facilities, increased enrollments, and a general strengthening of vocational education through research and leadership training. Even so, much remains to be done.

One aspect of the vocational program about which relatively little has been done is the pre-vocational, or exploratory phase of vocational education. In recognition of this fact, the House of Delegates of the American Vocational Association, adopted the following resolution, December 1966:

EXPANSION OF VOCATIONAL EDUCATION

Whereas, occupational destinies are shaped over a long period, beginning at birth and continuing until retirement, and

Whereas, appropriate education for occupational choice, orientation for the world of work, occupational competence and advancement should be a part of the total school education of all, and

Whereas, vocational and technical education for older youths and adults is often ineffective or impossible when early schooling has been inadequate or unrelated to work, and

Whereas, it is no longer possible to rely wholly upon families and out-of-school agencies to provide work experience, acquaintance with the wide range of occupational opportunities, and knowledge of the requirements of occupational entry and advancement, and

Whereas, transition from school to work has become increasingly difficult,

Therefore, be it resolved that the AVA join with those responsible for the elementary, secondary, and post secondary schools in developing programs of occupational education appropriate for all students and participated in by all students in elementary schools, junior and senior high schools, and post-high school institutions.

Be it further resolved that the AVA subscribe to the following criteria for these programs:

1. Programs in the practical arts, adapted to all students, should be expanded and extended downward into the early grades.

2. All students should receive this realistic occupational information and guidance, adapted to individual needs, and provided at appropriate times in their school careers. Parents should be aided in guiding their school-age sons and daughters in making realistic occupational choices and in selecting education programs related to their choices.

3. All professional personnel in a school system who have a relationship to occupational choice, competence, and advancement should be involved in planning programs of occupational education.

4. Schools should provide placement services when the students are ready to enter the labor market.

Be it further resolved that additional funds to implement this expanded and improved occupational development program be sought from local, state, and national sources; that personnel be prepared to conduct the expanded programs;

and that administrative arrangement, curriculum plans and teaching aids be developed which reflect the needs and interests of young and adult students.

This resolution provides the basis for our appearance here today in support of Title II, of S. 1125. We believe that the program outlined in Title II can be an important one for informing students about the world of work and for providing information and experience which will enable them to make an occupational choice. Such a program can contribute greatly in helping students to make the transition from school to work.

The $30 million authorized by S. 1125 will provide a modest approach toward solving one of our educational problems; it does not provide for vocational training as such; nor does it serve the large group of adults who need and want vocatioal training programs.

While we support Title II, at the same time we cannot appear here without bringing to your attention the facts that point to the need for greatly expanding funds for vocational education.

Early this year the American Vocational Association, in cooperation with the State Directors of Vocational Education, conducted a survey to assess the extent to which additional financial support is needed in order for the states to move toward the goal of meeting vocational education needs of "all persons of all ages in all communities." [1]

The results of our survey are based on the assumption that Federal-State-Local matching will remain at the ratios now provided for in the Federal Acts. The following is a summary of the information we obtained:

Summary of A.V.A. Study No. 1—1967 [2]*, Feb. 6, 1967*

Estimated *federal funds* necessary to adequately meet demands for vocational-technical education:

Fiscal Year 1967	$414, 988, 890
Fiscal Year 1968	560, 835, 000
Fiscal Year 1969	656, 316, 499
Fiscal Year 1970	1, 213, 616, 689

Estimated *local* and *state support* that could be obtained for vocational-technical education:

Fiscal Year 1967	$726, 718, 895
Fiscal Year 1968	875, 188, 871
Fiscal Year 1969	955, 888, 961
Fiscal Year 1970	1, 045, 666, 676

Estimated total funds (federal, state, and local) necessary to provide adequate opportunities for vocational-technical education:

Fiscal year 1967	$1, 141, 707, 785
Fiscal year 1968	1, 436, 023, 871
Fiscal year 1969	1, 612, 205, 460
Fiscal year 1970	2, 259, 283, 365

Estimated enrollments in vocational-technical education program:

Fiscal year 1967	$7, 097, 600
Fiscal year 1968	7, 781, 205
Fiscal year 1969	8, 829, 562
Fiscal year 1970	9, 059, 695

Estimated federal support needed for constructing, equipping and remodeling facilities to adequately meet the demand for vocational-technical education:

Fiscal year 1967	$236, 034, 979
Fiscal year 1968	323, 669, 883
Fiscal year 1969	353, 043, 809
Fiscal year 1970	354, 231, 724

[1] Vocational Education Act of 1963, Part A—Section 1.

[2] The figures reflected in this study include estimates received from all states and territories except Montana, North Dakota, Wyoming, District of Columbia, and Virgin Islands.

Estimate of the number of residential vocational schools needed: [3]

Fiscal year 1967	57
Fiscal year 1968	68
Fiscal year 1969	84
Fiscal year 1970	96

Estimated average cost for constructing and equipping one residential school is $3,996,051.

Estimated federal support necessary to operate one residential school for a one-year period.

Education cost per student	$925
Residential cost per student	1,018

I should point out, Mr. Chairman, that through establishment of vocational education residential centers, we can more adequately serve the disadvantaged youngsters who need a new environment in order to profit from education and training. In such a center it is possible to provide a variety of special services that are needed, including health and dental care, counseling and basic education.

As you know, the Vocational Education Act of 1963 provides for the establishment of residential centers, along with a provision for the vocational work-study program. The residential centers have never been funded, and we want to urge this Committee to make special provisions for residential centers, including a specific authorization.

Vocational-technical education teachers now employed in the states:

Full time	66,719
Part time	57,483

Total estimated teachers needed for vocational-technical education:

Fiscal year	Full time	Part time	Total
1967	69,252	64,968	134,220
1968	81,741	73,730	155,471
1969	86,591	79,116	165,107
1970	93,954	85,934	179,888

Investment in vocational teacher training in fiscal year 1966:

Local	$2,761,176
State	7,181,290
Federal	5,617,396
Total	15,559,862

Total number of teacher trainers—1,956 of which 1,018 are full time and 938 are part time.

Estimated federal support necessary for pre-service, in-service, internships, and fellowships for vocational teachers:

Fiscal year 1967	$20,191,991
Fiscal year 1968	24,090,195
Fiscal year 1969	27,280,495
Fiscal year 1970	29,442,010

Estimated number of students who should be served by vocational work-study programs:

Fiscal year 1967	323,403
Fiscal year 1968	353,858
Fiscal year 1969	379,307
Fiscal year 1970	396,599

Estimated federal support necessary to provide work-study programs for students who need assistance in fiscal year 1967—$25,828,314.

[3] Seven states did not identify the number of residential schools needed.

We are pleased that the Appropriations Committees of both the House and the Senate have set aside recommendations of the Budget Bureau to phase out this program by including it in the Neighborhood Youth Corps. The $10 million appropriated for fiscal year 1968 will continue to give life to the program.

There is some urgency that the Congress act to extend the life of the work-study program. The authorization for this program expires at the end of the present fiscal year.

41 states reported that the differential in matching among various work-study programs has created problems.

Estimated federal support needed by the states for vocational-technical education research:

Fiscal year 1967	$15, 029, 328
Fiscal year 1968	19, 549, 370
Fiscal year 1969	22, 429, 534
Fiscal year 1970	25, 764, 629

VOCATIONAL WORK-STUDY PROGRAM

I am sure, Mr. Chairman, that you are aware of the recommendation of the Bureau of the Budget that the Work-Study Program (Section 13, P.L. 88-210) be phased out and replaced with a program established under the Economic Opportunity Act; the Neighborhood Youth Corps. You will recall that this recommendation was made last year by the Bureau of the Budget and has again been recommended with respect to the budget for fiscal year 1968.

We believe that the vocational education work-study program effectively reaches vocational students who will not be served by other financial aid programs, and we are confident that these programs cannot be made available as efficiently and as effectively as has been demonstrated by the vocational work-study program.

The vocational work-study program is administered through existing state and local educational administrative channels. It operates in rural areas and small communities as well as in the larger urban area. Existing administrative channels can operate the vocational work-study program for one student as well as for many.

It aids students ages fifteen to twenty-one, trying to help them before they drop out at age sixteen when most drop-outs leave school. The vocational work-study program is administrated by educators who are interested in vocational students and their future.

The vocational work-study program oftentimes has provided an opportunity to place students in jobs that are related to their vocational objective. Thus, the program becomes a valuable tool in motivating students and enhancing their employability.

In the first year of operation, fiscal year 1966, it was estimated that 50 per cent of the students who participated in the vocational work-study program worked on jobs related to their vocational training.

The vocational work-study program has been well received by local school administrators as well as by State and local vocational leaders. They represent the administrative level closest to the students, and they have been free to make decisions at the level where the most information about students is available. Costs for program operation have been exceedingly low at both the State and local levels. Approximately 97 per cent of each dollar appropriated has been spent to pay salaries of needy students.

It should be noted that the State and local communities make a contribution to the vocational work-study program which exceeds the contribution made by local agencies that sponsor the Neighborhood Youth Corps. I make this point simply to say that educators have promoted the vocational work-study program to the extent that local and state agencies are willing to pay 25 per cent of the total cost of the work-study program. I know of no other Federally-supported work-study program, at any level, that has generated local support equal to that generated by the vocational work-study program.

We hope, Mr. Chairman, that you will give every consideration to these facts as you develop the legislation now before this Subcommittee.

In closing, we wish to thank you for your support of the vocational education program, and we offer you our assistance as you develop legislation to strengthen and improve vocational education.

Senator MORSE. I want the subcommittee to know that Dr. Loomis has has made one great contribution after another in this whole field of vocational education in my State, and I have relied very heavily upon him for the information that I have needed to perform my duties on this committee. He was in attendance at our field hearing earlier this year when this committee had a hearing at Eugene, Oreg. The record will show his contribution then.

I want you to feel, Dr. Loomis, perfectly free to put in the record any repetitive material that you think needs to be included for this subcommittee. Mr. Burkett's testimony raises some very great issues with this committee in regard to the amendments needed.

I think I will only add before you testify that now for fiscal 1968 there is authorized $225 million, and section 201, the addition to title II, proposes $30 million for the new service that it seeks to provide. When you take those figures and compare them with your figures as to the need, Mr. Burkett, it's obvious just how far out of line we are. And I think you gentlemen need to emphasize the discrepancy that exists between the already authorized amounts and the $30 million that is being asked for and what this crying need is in this field of vocational education, adding to it your last comment about your work-study program.

But it just seems to me that you are quite right, and Dr. Johnson was quite right in his opening statement, you are not asking that other educational programs be diminished, but simply asking that we face up to whether or not we want to take some giant strides forward in providing facilities and the training to skill people for employment who we know are not going to go on for baccalaureate degrees and master's degrees and doctorates in the other segments of education. And I have always shared the point of view that you have got to have this dual approach to the educational needs of the young people of this country and those that want to develop the vocational skills ought to have the programs that will make it possible for them to develop them, because if you don't then—strike that.

If we don't, then we must assume responsibility for the dropouts because they don't have the interest, many of them, for the other type of education—no reason why they should. That's not their motivation but you just cannot justify drowning them in a pool of unemployability, and that's why I think you need to follow a pretty hard line here of proof for us to use as to the justification for the larger amounts that were alluded to by President Johnson and backed up by your exhibits and your statement.

Mr. BURKETT. Senator Morse, I would just like to point out to you that it is conservatively estimated by fiscal 1970 we will need over $1.2 billion of Federal funds to serve the needs of an estimated 9 million vocational education students. That is the challenge we have ahead of us.

Senator MORSE. All right, Dr. Loomis.

Senator YARBOROUGH. Mr. Chairman, may I make a statement?

Senator MORSE. I wish you would.

BUREAU OF BUDGET RECOMMENDATIONS

Senator YARBOROUGH. Mr. Burkett, having some familiarity in my State with the fine work the vocational teachers do, I attended Sam

Houston State Teachers College in 1941, and they had a large training program there, that is, relative to the total student enrollment in vocational training, to train vocational teachers. Then I was general counsel for the Texas State Teacher's Association of my State from 1947 to 1950. I resigned to run for statewide office. In that office I have learned of this great service that vocational education teachers render. And with that I am rather astonished at the recommendation of the Bureau of the Budget. That they phase out this work-study program and replace it with a program established under the Economic Opportunity Act, the Neighborhood Youth Corps.

Well, the schools have the machinery and the mechanism and the know-how, and have shown that they know how to administer vocational education programs repeated in your statement and President Johnson's indicates, even under great emergencies like World War II where you expanded up from school-age children to people 60 years of age. If the vocational education teachers have succeeded in this endeavor, then why destroy it? Where you have vocational education everywhere I have been in my State, in every county, why destroy that work-study program under the trained, successful vocational education teachers to set up something new under the Neighborhood Youth Corps?

Do you know why the Bureau of the Budget wants to destroy this work-study program under trained vocational education teachers?

Mr. BURKETT. Frankly, I do not know the reason. I wish I did know. I think the fallacy of this is the fact that people in vocational education find the students, they counsel their students, and oftentimes determine their needs both educationally and financially. We need to provide assistance to those students who could not attend vocational education programs otherwise.

Senator YARBOROUGH. The Neighborhood Youth Corps, as I understand it is considered for people that had dropped out, completely lost from the school system that you couldn't reach any other way, and which you might say the people not in the educational system. I am just wondering if the social workers through this are planning to take over part of the education.

I think that we ought to have some real reasons from the Bureau of the Budget why they want to destroy this very successful work-study program done with the vocational education teachers in our conventional school systems.

I just raised that question, Mr. Chairman, because it's square before us this year, and it's a situation that we are going to have to work on or we will destroy the work-study programs that have already served some 9 million students out of approximately 50 million of school age to put them under this Youth Corps. The Neighborhood Youth Corps hasn't won any gold medals in most places of the country for successful operation.

Senator DOMINICK. I could endorse that comment.

Senator MORSE. Mr. Burkett, is there anything that the Neighborhood Youth Corps, by way of programing can do or proposes to do in that existing vocational work-study program that can't be continued under the present administration of it?

Mr. BURKETT. I think Dr. Loomis may point up some of the inconsistencies between the vocational educational work-study and the Neighborhood Youth Corps.

One problem is that students receive more money under the Neighborhood Youth Corps than they do under the vocational work-study program. Another problem is that States must match Federal funds on a 25-to-75 ratio, while the NYC programs are supported at 90 percent by the Federal Government not with 10 percent matching either in cash or in kind. The cost of the administration of the work-study program has been almost nil because we already have the system in our public schools to administer the program.

Senator YARBOROUGH. Do you have a paper later in the panel where you compare that cost with the Neighborhood Youth Corps?

Mr. BURKETT. I do not know that we have.

Senator YARBOROUGH. Well, I want to ask somebody to prepare that and submit it. Now, you gentlemen may have been reticent because of the conflict with the Neighborhood Youth Corps. I support the Neighborhood Youth Corps. I supported that bill, helped to put it there. When we are looking at this, let's just see what it costs. So if you do not volunteer, I am requesting that you furnish that information to this committee.

Mr. BURKETT. Since you request it, Senator, I will be glad to supply you with this information.

Senator YARBOROUGH. Thank you.

Senator MORSE. One more point before you start, Mr. Loomis.

There is a factor you have to clear up for me because I am floundering right now. Sometimes during this panel discussion or the supplemental statement to be filed by you, I want you to answer these questions:

EFFECT OF ADOPTION OF BOB RECOMMENDATIONS

If the work-study program, vocational work-study program as you now conduct it is to be brought to an end and is transferred to the Neighborhood Youth Corps, I want to know that result in a group of students now beneficiaries under the vocational work-study program. No longer being its beneficiaries, do they still continue to get the benefits of a work-study program?

No. 2, is it the contention of the advocates of the Neighborhood Youth Corps that they will be reaching a group of beneficiaries that cannot be reached under the continuation of the present vocational work-study program within its present administration.

And No. 3, does this involve a case of where you will set up, we will set up a new administrative group that is really an appendage we can dispense with if we leave the program where it is and provide, if necessary, authorization for expanding it to a group of individuals in which the Neighborhood Youth Corps is designed to reach but which could be just as well reached by an expansion of the present system.

Now, my questions probably show how much information I really do need on this subject, but I am at a loss to understand if you have got a vocational work-study program going along now and serving all the people that it is serving, why it can't be expanded to serve the group of people that may not now be served but could be served if you were given the wherewithal and the authorization to serve it.

Senator YARBOROUGH. Mr. Chairman, may I make an additional request of Mr. Burkett?

I want you to file also a statement compiling information to show how many counties and parishes in the United States out of the more than 3,000 counties and parishes in the 50 States have work-study programs, vocational education now and how many of those counties have Neighborhood Youth Corps and how many if you abolish this program, as the Bureau of the Budget has recommended, that has worked so well with the vocational education work-study program, how many counties will be left out. I have a feeling that most of your rural counties are going to be kicked out if the Bureau of the Budget succeeds.

Do you know that offhand?

Mr. BURKETT. No. We will be pleased to supply this information.

Senator YARBOROUGH. We would like to have it compiled and filed with the subcommittee.

Senator MORSE. It will be received and filed with the subcommittee.

Senator DOMINICK. Mr. Chairman.

Senator MORSE. Yes, Senator Dominick.

DROPOUT RATE

Senator DOMINICK. I am sorry I was not here to hear the beginning of Mr. Johnson's statement, but I have had an opportunity during the colloquy to read Mr. Burkett's testimony. The other day we had Dr. Donovan here, who is the superintendent of schools from New York City and he indicated that only about 40 percent of the students who were going to vocational schools graduate. In other words, there is a dropout rate of some 60 percent. This is higher than it was in the ordinary school system. I ask him if he could cite any reasons for this.

One of the things he said was that a number of the students in the vocational field had dropped out because they received higher pay, either under a retraining program, under a Federal welfare program or under the manpower retraining programs. Have you any comment on that?

Mr. BURKETT. I would prefer to refer this to one of the local people here. Dr. Loomis undoubtedly can speak to this, Mr. Barbieri, Mr. Moss, and others.

Senator DOMINICK. Do you have any overall figures of how many students have dropped out of vocational schools to move into federally funded retraining programs of one form or another?

Mr. BURKETT. I don't have any figures.

Dr. LOOMIS. I don't have any figures on this.

Senator DOMINICK. In your experience, have you found any evidence that work study programs have also been the subject of this kind of action, namely that maybe the families are on welfare and find if they go into a work study program the family income is thereby put into a position so that they are no longer eligible for welfare, and therefore they drop out of work study? This was also testified to

by Dr. Donovan. He said he had noted problems with this in New York City.

Mr. BURKETT. To my knowledge, no motivated figures are available.

Senator MORSE. Dr. Loomis, you may proceed if Senator Dominick has no further questions. We are very glad to hear you.

STATEMENT OF DR. WILLIAM G. LOOMIS, STATE DIRECTOR OF VOCATIONAL EDUCATION, SALEM, OREG.

Dr. LOOMIS. Mr. Chairman and members of the subcommittee my name is Bill Loomis and I am here today representing the National Association of State Directors of Vocational Education.

I would like to say, Mr. Chairman, that the State directors within the last 6 months have had two meetings, one in January and one in May, to look at the need for additional legislation or a revision in legislation. I will attempt to summarize my written statement in the interest of time.

SUPPORT OF TITLE II OF S. 1125

First, I might say that the State Director's Association strongly supports the basic concepts of title II amendment to the 1963 Vocational Education Act contained in Senate bill 1125. This proposal will broaden, the capabilities for initiation of new and innovative programs which are desperately needed in our high schools throughout the country. We are prepared to launch this program immediately upon receipt of additional financial assistance.

We do object, however, to one feature of this proposed amendment.

ALLOCATION OF FUNDS THROUGH STATE BOARDS

The amendment permits the allocation of funds directly to school districts or local educational agencies in addition to State departments of education or State boards for vocational education. The State directors feel that close coordination with other vocational education programs is essential, and we feel that by allocating the funds through the State boards, that we can better coordinate the activities of this proposed program than we could if funds were allocated as provided for in S. 1125.

And I would like to indicate at this point, too, that in addition to the State plans for vocational education, the U.S. Commissioner of Education requires each State to file a projected program of activities for vocational education each year. In this morning's testimony it was indicated that there are some problems from the U.S. Office of Education's point of view in being assured that the intent of the act is carried out. The program of activities developed each year by the States provides the Commissioner's Office necessary information for adjustments which the Office believes should be made. And with this projected program of activity provided each year, we feel that

if the Commissioner were to allocate specific grants within the States without regard to the States plans, it would in a sense be in conflict with our projected activities or State plans. So, for this reason primarily and the necessity of coordinating the total program, we object to this provision of the proposed amendment.

Senator YARBOROUGH. What provision is that?

Dr. LOOMIS. The provision that would permit the Commissioner's Office to allocate grants to local districts.

Senator YARBOROUGH. Within the States?

Dr. LOOMIS. Yes.

Senator YARBOROUGH. Under the existing law does that rest with the directors of vocational education to allocate those grants within the States?

Dr. LOOMIS. Right.

Senator YARBOROUGH. They propose to change that and let those be made directly by the Federal officials?

Dr. LOOMIS. Yes, Senator. The $30 million that would be provided for under this amendment could be allocated either to the State departments or to local educational agencies, and we object to this fragmentation in administering programs.

Senator YARBOROUGH. What reasons do the Federal officials give for wanting to take this away from the State authorities?

Dr. LOOMIS I don't know that I could speak to that point, specifically, other than I assume that they feel that as they look at the nationwide program they can decide what is best. The provisions of the act provide that $150,000 minimum would be allotted to each State. The expenditure of the remaining funds would, in a sense, be left to the discretion of the U.S. Office of Education.

VOCATIONAL WORK STUDY

Senator YARBOROUGH. I am very much concerned with this proposal that is be abolished and all be put in the Neighborhood Youth Corps. I am in favor of the Neighborhood Youth Corps taking these school dropouts who have dropped out for years and giving those people a chance provided you don't pay them so much that you induce them to drop out of school. The idea of taking over vocational education seems to be building up another bureaucracy and taking away from schools the thing with which in my area, for instance, they have done quite well. We are talking about saving dollars, and the stringencies we have on the budget due to the great cost of the war in Vietnam. That is the real cause of the strain on the budget in this country. It seems to me that this not an economical way to do it. I do not say school education is a better way. I have an open mind, but they have to show me a reason for the change.

Dr. LOOMIS. Senator, I think the proposed amendment in S. 1125 really expands or provides us an opportunity to conduct exploratory programs and work experience programs at the 9th-, 10th-, and 11th-grade levels, and I believe this will broaden the vocational aspirations and the outlook of youngsters at that level. We think this amend-

ment is greatly needed but we feel that the program should be administered through the State level to assure effective administration as we look at the statewide needs. We are required by the U.S. Office of Education under the State plan for vocational education and the projected program of activities to take a statewide look at the manpower needs in the State and how the Vocational Education Act for 1963 is meeting these needs. We contend that this amendment adds to the possibilities of meeting our total needs. We strongly urge that it be cooordinated with our ongoing program.

Senator YARBOROUGH. Thank you. I am very much impressed with your statement on this.

Senator MORSE. I think I will make this point right now, Dr. Loomis. Then you can have these facts for any comment that you people want to make.

In the testimony before the Senate Appropriations Committee in my capacity as chairman of this subcommittee I said:

> While in general the budget estimates of almost $200 million to fund grants to the states under the Vocational Education Act of 1963 is sufficient to meet the purposes of that legislation until such a time as the authorizations are increased, there is one area of funding under this authority which does cause me some concern.
>
> No money is provided in the budget for the Vocational Work-Study Program, which last year received an appropriation of $10 million. The argument is made that the Bureau of the Budget would prefer to concentrate its funding activities in this area of assistance to young people within the Neighborhood Youth Corps, authorized under the poverty programs.
>
> This will mean that many programs in many of our states which have previously been funded, will be forced out of existence. The authorization for vocational work-study, however, continues through Fiscal Year 1968. The basic legislation will come under the review of the legislative committee during this session of the Congress. The administration bill, S. 1125, has been introduced. Hearings will be held. During the course of those hearings, I am confident that testimony will be elicited which will enable a Congressional determination to be made of our educational policy in this area of youth education.
>
> It would be my hope that your committee would see fit to provide as an addition to the President's budget, at least the $10 million that was provided last year, and that the phasing out of this program if it is to be accomplished, be done through the exercise of legislative authority rather than at the behest of the Bureau of the Budget.

Senator MORSE. I am glad to report to you that the Senate committee and the House committee did add $10 million to the work-study program. The bill is in conference now because of difficulties in other respects. But we had a work-study program for the residential schools of $35 million. Now, the additional $10 million would bring it up to $45 million. I think the bill in its present form in conference as far as the Senate is concerned is $252,900,000 for education, which includes Smith-Hughes and the whole gamut. I think what we have to do in this hearing today and in the material that you file subsequent to it is really butress this committee with the facts that will stand up for sufficient funding to do the program for 1968 that you think is reasonable for us to ask for. But I think this $10 million on work-study that has been added by the Senate Appropriations Committee and the House Appropriations Committee gives some evidence that right now there is not a desire to phase it out, and if it is to be phased out, it

ought to be by way of legislation. And speaking only for myself, I am going to recommend to the committee that we put in the bill what our position and the policy is on that question. My present intention—I have scanned through your testimony—is to put in a restriction on phasing it out as far as the vocational program is concerned.

VOCATIONAL WORK STUDY

Senator YARBOROUGH. I would like to associate myself with the remarks of the chairman, and unless we have shown that the Neighborhood Youth Corps has taken this function over every county and parish in the State and is doing this adequately, I very much oppose the phasing out, and I personally don't believe we have a Neighborhood Youth Corps program in half the counties of my State, not even a fourth of the counties of the State.

Senator MORSE. Could I ask this question, Dr. Loomis? The direct interpretation of what I have heard from you so far is that basically you would like to have about 10 percent of the money allocated to the State freed for your own use in funding experimental and demonstration programs and for research in vocational education.

Dr. LOOMIS. Yes, Mr. Chairman. One of the other items that I wanted to touch on in addition to S. 1125 is the position of the State Directors Association on research.

Senator MORSE. Go ahead.

Dr. LOOMIS. Well, in addition to the amendment to S. 1125 I have four items that I would just briefly like to highlight, that the State Directors Association feel strongly about as related to vocational education at the national level.

NEED STUDY

First of all, we concur with the American Vocational Association nationwide study that outlines the additional need that Mr. Burkett referred to here so far as additional funds being needed under the present act. In other words, we feel that under Public Law 88–210 the basic appropriation authorization should be increased substantially, and my written testimony highlights Oregon's needs, which we felt was typical of the needs in the other States. I might just mention here, Mr. Chairman, that we know at this point in time that for the year, fiscal year 1968, that Oregon could use $6 million instead of the $2.5 million available to us under the Federal Vocational Act for the current fiscal year. We know that for 1968–69 we could use $12 million instead of what now would be the limit of $2.5 million. And we in Oregon have also projected our needs in vocational education at the high school and post-high-school level to 1975.

RESEARCH

Secondly, we believe that research funds, IV–C money in Public Law 88–210 that you just alluded to, Mr. Chairman, should be funded at the full 10 percent. The State directors feel that one-half of this amount should go to the State boards for vocational education as a

part of their yearly program for allocation within the States. The other half should be appropriated between the Bureau of Adult Vocational, and Library Programs and the Bureau of Research in the U.S. Office of Education, depending on the type of research to be conducted.

VOCATIONAL WORK STUDY

The third item that the State directors feel strongly about is the one that you have spoken to here extensively this afternoon. The work-study funds available under Public Law 88–210. As you know, the matching feature in Public Law 88–210 is 75 percent Federal and 25 percent State and local, so we are at a disadvantage in the States for the allocation of funds under NYC and other purposes where they are either 100 percent or, in some agencies, 90 to 10. We have been able to find the 25 percent in Oregon, but we still lack funds for this program. Our figures in the State of Oregon would indicate we could use twice as much work-study money as we are now getting. In other words, we need $20 million at the national level, and these are hard needs that the schools and community colleges have submitted to us. If the age limit of 21 years of age was lifted, we could use two and a half times as much for this coming year.

Also, the State directors feel that the limitation of earning only $45 per month during the academic year, if they are living within the area in which they are going to school, or $60 a month if they are living and have to travel, is too small. I think this is one of the reasons Senator Dominick had mentioned that they tend to either get off one program or the other and seek the one that can support the program, so we feel that the age limit of 21 years should be changed, and we feel that there should be an increase in the $45 and $60 to be comparable with earning ability of other Federal programs.

And, incidentally, on this work-study program I can attest to the fact that in Oregon we have work-study programs under the Vocational Education Act in a good many school systems that do not have an NYC program, which would mean that the public schools would have to become eligible under NYC and they have not found it practical to do so thus far, so it forces a good many schools to move over under this program.

Also the State directors would like to see the amount available for administration of work study funds increased at the State level from 1 to 2 percent of the total allocation, or $20,000 for each State.

RESIDENTIAL SCHOOLS

The fourth item is that the State directors feel very strongly that funds for residential schools are needed. As you know, Congress has not appropriated funds for this purpose under Public Law 88–210. We feel that 90 percent Federal aid is desirable for construction and equipment, and 75 percent for operational costs. It is our contention, Mr. Chairman and members of the subcommittee, that if offered

through State boards of education not only dropouts but near dropouts that are in the high schools could be better served in the public school system. In Portland, Oreg., for instance, in two semirural areas not far from Portland we have worked out a plan to provide over a 5-year period programs for some 20,000 enrollees, both dropouts and near dropouts, which will call for some residential facilities, and at the present time money is not available under the Vocational Education Act. We are seeking other sources, but we have a definite need and a definite number of enrollees in mind.

TEACHER PREPARATION

The State directors feel that we need additional assistance in the teacher education area. We have a tight labor market in this country at the present time. A good many of our teachers come from industry. We do need additional funds to conduct workshops and institutes as well as preservice and inservice programs and intern programs.

Finally, might I just say in closing, Mr. Chairman, that I would suggest to the committee that, in a sense, we have legislative blessing to provide vocational education, but we still don't have a mandate in a sense. You have provided us a license, and we think that we can do a much better job than we are now doing, although we think we are now doing quite a bit, but we do need additional Federal funds.

Senator MORSE. Well, let me just say that if the age limit of 21 were lifted you could use two and a half times the amount that Oregon now gets. Do you think that would be pretty uniform across the country, too?

Dr. LOOMIS. It would be my opinion.

Mr. BURKETT. Yes.

Senator MORSE. Now, if you lifted the present $45 a month figure what would you lift it to?

Dr. LOOMIS. We did not have a recommendation as far as the State directors are concerned, Mr. Chairman. However, we believe the amount should be in line with other similar programs.

Senator MORSE. It is $45 now, is it not?

Dr. LOOMIS. Yes, $45 if they live in the area in which they are going to school, and it is $60 a month if they must move into the area, and so on. In the summer months this ceiling is taken off, and the programs works very fine. The summer months program gives them a boost, but it is not enough to keep them going through the winter.

Senator YARBOROUGH. What are they paid in the Neighborhood Youth Corps?

Dr. LOOMIS. I cannot answer that.

Mr. BURKETT. I cannot answer that.

Senator MORSE. Counsel will find out and put it in the record. Senator Dominick.

(The information requested follows:)

Description of allowances and benefits payable on monthly equivalent basis [1] to eligible participants of Federal manpower development programs

Types of allowances and benefits	Manpower Development Training Act		Neighborhood Youth Corps	
	Youth	Adult	In school (and summer)	Out of school
Basic payment: Name	Training allowance		Wages	
Amount [2]	$87 [3 4 5]	$117 to $222 [4 5 6]	School year: $43,[7] $82.[8] Summer: $122,[9] $243.[10]	$122 [9] to $243.[10]
Basis for determining level of basic payment.	Amount specified in statute, $20 maximum per week equals $87 per month.	No more than $10 above average weekly gross unemployment compensation payment for a week of total unemployment in State making such payments during most recent 4-calendar-quarter period for which data are available.	Hours administratively set. In school: Minimum of 8 hours, maximum of 15 for 16 years old and above. Under 16 years: Maximum, 8 hours. Summer: Minimum, 20 hours; maximum, 40 hours.	Minimum, 20 hours; maximum, 40 hours.[11]
Other allowances and benefits			Wages administratively set to reflect applicable Federal or State minimums but no less than— In school: $1.25 per hour. Summer: $1.40 per hour.	$1.40.
Amounts for dependents	None	$22 (at $5 per week) per dependent; maximum, $130 at $30 per week).	Not applicable.	
Transportation	Maximum 10 cents per mile except for local transportation by most economical mode of public transportation.		Wage equivalent for time in transit (maximum, 2 hours per trip).	
Miscellaneous	Subsistence,[12] $152 (at $35 per week or $5 per day)[13]		Various fringe benefits if normally supplied to similar wage earners may be approved under agreement with sponsors; e.g., pay for accrued vacationtime, health insurance premiums, etc.	
		Augment after 10th week of training: Trainee with no dependents, $43 (at $10 per week); trainee with 1 dependent, $22 (at $5 per week).		
Maximum period for receipt of allowances and benefits.	24 months (104 weeks)		Until high school graduation	24 months.

Types of allowances and benefits	Operation Mainstream	New careers	Special employment impact program	Work experience and training
Basic payment: Name	Wages	Wages	Wages	Assistance grants
Amount	$122 [9] to $243 [14]	$122 [9] to $243 [14]	$122 [9] to $243 [14]	([15] [16]).
Basis for determining level of basic payment.	Legal Federal or State minimum wage or prevailing wage for comparable work, whichever is highest.			States use 1 of 3 methods devised by welfare administration to determine cost standards of need, Each provides for basics of clothing, electricity, food, fuel, household equipment, household supplies, medicine chest supplies, personal incidentals, phone, school costs, shelter, transporation, and water. States devise own method for calculation of individual's income and other resources. Participants receive 100 percent of need (i.e., costs minus income resources).
Other allowances and benefits: Amounts for dependents	None	None	None	Included above.
Transporation	Provided in kind or reimbursement to trainee			No work-related transportation included in basic. Work-related transportation: Usually cash payment as established by project authorities. Amounts payable not available.
Miscellaneous	Various fringe benefits if normally supplied to similar wage earners may be approved under agreement witn sponsors; e.g., pay for accrued vacation time, health insurance premiums, etc.			Lunches, necessary work clothing and related work expenses are provided for usually through cash payment to trainee. Amounts payable not available.
Maximum period for receipt of allowances and benefits.	24 months	24 months	24 months	None.

See footnotes at end of table, p. 1944.

Description of allowances and benefits payable on monthly equivalent basis [1] to eligible participants of Federal manpower development programs—Continued

Types of allowances and benefits	Community work and training program [17]	Vocational work-study	Vocational rehabilitation workshop training [18]
Basic payment: Name	Assistance grant	Wages	Training allowance
Amount [2]	([15] [19])	$45 [20] [21] or $60 [22]	$43 to $109.
Basis for determining level of basic payment.	States use own method of determining cost standards of need for basics of clothing, electricity, food, fuel, household equipment, household supplies, medicine chest supplies, personal incidentals, phone, school costs, shelter, transportation, and water. State devises method of subtracting income and other resources of participant.	Statutory amount on dollar earning. See footnotes 20, 21, and 22.	Administratively set minimum, $43. Higher amounts according to (a) personal need; (b) effectiveness as inducement to entering training; (c) effectiveness as inducement to achieving better standard of living. Amount above $43 reduced by 25 percent of amount earned as wages.
Other allowances and benefits: Amounts for dependents	Included above	Not applicable	$43 per dependent to maximum of $174 for dependents.
Transportation	Directly related costs (transportation, etc.) met in kind or through cash payments. Amounts not available.	None	None.
Miscellaneous	do	None	None.
Maximum period for receipt of allowances and benefits.	None	None	24 months.

Types of allowances and benefits	Job Corps	Employment assistance program institutional training [23]	Veteran's vocational rehabilitation program [24]
Basic payment: Name	Living allowance	Maintenance grant	(A) Disability compensation (B) Subsistence allowance
Amount [2]	$30 to $50 [25]	$220 [26]	(A) $21 to 850. (B) $95 to $110.[27]
Basis for determining level of basic payment.	Amounts set administratively whereby the center director may allow to the indicated percentages of corpsmen the amounts shown, respectively: 35 percent, $30; 35 percent, $35; 10 percent, $40; 10 percent, $45; 10 percent, $50.	Amounts set administratively by BIA to meet minimum basic needs.	(A) Administratively set by degree of disability. (B) Statutorily set.
Other allowances and benefits: Amounts for dependents	$10 to $50 [28]	Dollars per number of dependents are: $285 per 1; $380 per 2; $435 per 3; $500 per 4; $555 per 5; $605 per 6; $650 per 7; $675 per 8; $730 per 9 or more.	(A) $13 to $25.[29] (B) 1st dependent, $30 to $50; [30] 2d dependent, $25.[31]
Transportation	None [23 32]	Included in maintenance grants. Amount not available.	None.
Miscellaneous	Readjustment allowance $50 per month of satisfactory service; [24] personal clothing allowance: first year—$75 men, $20 women; [33] second year—$30 each.	Personal appearance grants (clothing, etc.) purchase of housewares and furniture, shipment of household goods, health benefits, tuition, and related costs, and emergency financial assistance is supplied, as needed.	Supplies and equipment, in kind, as needed during training.[34]
Maximum period for receipt of allowances and benefits.	24 months	24 months	(A) Lifetime. (B) 50 months.

See footnotes at end of table, p. 1944.

[1] Monthly rate is calculated by dividing weekly amount by 23 percent (applies to MDTA, NRC, Operation Mainstream, new careers, SVEIP, VEWS, and vocational rehabilitation (workshop)).

[2] Exclusive of any augments, incentive payments, or other identifiable increments.

[3] Applies to 47 States, the District of Columbia, and Guam. Elsewhere payments are: $83 in Mississippi, North Carolina, West Virginia; $74 in Virgin Islands; and $61 in Puerto Rico.

[4] Some individuals are entitled to unemployment compensation (UC) during training. If the UC weekly benefit amount exceeds the appropriate MDTA training allowance, the individual receives an increased training allowance equaling the UC weekly benefit amount. Where the UC weekly benefit is less than the MDTA training allowance, the individual receives the higher amount which is then designated as a supplemental training allowance.

[5] Training allowances are reduced where trainees are receiving wages, as follows: OJT trainee allowance is reduced 1/40 for each hour compensated by the employer; all trainees compensated for more than 20 hours per week (except to an OJT trainee by his OJT employer) have reductions: allowances equal to 100 percent of the earnings paid in excess of 20 hours per week.

[6] Represents range from amount in the lowest paying of 52 jurisdictions to amount in the highest paying jurisdiction. Excludes Virgin Islands ($104) and Puerto Rico ($78). For these 52 jurisdictions, median and unweighted mean are $165.

[7] Represents NYC minimum of $1.25 per hour (except for off-shore areas with history of FSLA exemption) times minimum weekly hours (8) translated into monthly figure.

[8] This is minimum payable at the $1.25 minimum rate which was most widespread in fiscal year 1967. Where prevailing wages are high; e.g., Alaska, west coast, and New York City, some project sponsors are paying higher amounts.

[9] Represents BWP minimum of $1.40 per hour applied to minimum weekly hours (20) translated into monthly figure.

[10] Represents BWP minimum wage of $1.40 per hour times maximum weekly hours (40) translated into monthly figure. The current goal is to raise current agreements and set all new agreements at $1.40 per hour except where higher area wages warrant higher rates; this applies to all summer and out of school programs.

[11] These activities are to include an appropriate combination of work, training, and supportive services. Generally the administrative goal is 30 hours work-experience and 10 hours supportive services and training.

[12] For training outside of the normal commuting distance from a trainee's regular place of residence.

[13] In Alaska subsistence is $8 per day.

[14] Represents BWP minimum wage of $1.40 per hour times maximum weekly hours (40) translated into monthly figure.

[15] No specific dollar amount can be given because the basic amount is based on the individual's basic needs; i.e., cost of sufficient food, clothing, shelter, and similar necessities. Basic needs are calculated with certain reductions where warranted by the individual's income and resources. Each State is responsible for defining level of living that is used to determine who is needy and the amounts which they are eligible for.

[16] Trainees receive 100 percent of basic needs.

[17] Social Security Act title IV aid for dependent children.

[18] No basic payment is made for nonworkshop training under the vocational training under the vocational rehabilitation program. States provide nonworkshop vocational rehabilitation services on basis of individual's ability to pay and most States administer means tests.

[19] Half of States participating have maximums on AFDC payment which prevent full need being met through the assistance grant.

[20] Maximum compensation on monthly basis. Per academic year or its equivalent maximum is $350. This maximum is for youth attending school within reasonable commuting distance of home.

[21] There are no limitations on the amount a student may earn during the summer and such earnings do not affect the amount of compensation allowable during the academic year.

[22] Maximum compensations on monthly basis. Per academic year or its equivalent maximum compensation is $500. This maximum is for youth attending school which is not within reasonable commuting distance of home.

[23] No allowances and benefits are paid directly to OJT trainees however under contract with the employer; Bureau of Indian Affairs may pay the employer up to ½ the hourly minimum wage rate.

[24] While training and for 2 months after rehabilitation eligible disabled veterans may receive subsistance allowances in addition to their disability compensation. Entries preceded by (A) apply to the disability compensation and (B) to the subsistance allowance. Amounts for (A) are at wartime rates; for peacetime and 6 month enlistees the benefits are generally 80 percent of wartime rates. For (B) amounts are for full-time training.

[25] Corpsmen are entitled to the $30 amount but may be given incentive increased in $5 increments in accordance with limitations described in basis for determining level of basis payment.

[26] Of this, $160 is for subsistence and $60 for additional needs.

[27] For OJT and institutional-on-farm, $95; cooperative training, $100 in school and $95 in job portion; full time in schools and colleges, $110.

[28] Corpsman allotments consist of the amount contributed by corpsman out of his readjustment allowance (maximum is $25) and the like amount matched by Job Corps. Female enrollees having children in the custody of others are required to allot maximum. Male corpsmen may voluntarily allot but only at maximum. Allotment to other kin drawing substantial support from corpsman is voluntary; must be in multiples of $5.

[29] Wartime rates equal (I) Wife and no children, $25; 1 child, $43; 2 children, $55; 3 children, $68; additional children, $13 each. (II) No wife and 1 child, $17; 2 children, $30; 3 children, $43; additional children, $13; child (18 to 23 years old) attending school, $40. (III) Dependent parents, $21 each.

[30] For OJT and institutional-on-farm, $95; in job portion of cooperative training, $30; full time in schools and colleges, $40; in school portion cooperative training, $50.

[31] For each dependent in excess of 2, subsistence allowances will be increased by $5, if existence of such dependents does not make veteran eligible for additional disability compensation.

[32] Transportation tickets provided for trip to center and return home at end of training.

[33] During the 1st year a woman may receive a maximum of $140 at the discretion of the center director.

[34] Trainee keeps the supplies and equipment after rehabilitation.

Source: Table II, central issue paper on allowances and benefits, PPBS for fiscal year 1969, Department of Labor, Manpower Administration.

DROPOUT RATES

Senator DOMINICK. Thank you, Mr. Chairman. Dr. Loomis, I just want to make myself explicit on this. I am very much in favor of the vocational training programs that have been set up and have been all the way through, but I wonder if you could tell me what the dropout rate in the vocational school is in Oregon?

Dr. LOOMIS. Well, Senator, the reason I think it is difficult to get a a dropout is because if you were comparing the dropout rate in a specialized vocational school in New York City to the dropout rate in a high school, comprehensive high school program, where rather adequate vocational facilities were provided, or the dropout rate in a community college on a post high school educational program, the figures would become substantially different. So, I could not furnish you figures on dropout rates in vocational schools because I think, if I might suggest, you would have to look at the kind of institution. If it is a high school area facility, or if it is a combination high school-post high school facility, you get different kinds of figures, sir.

Senator DOMINICK. Well, in Oregon did you have separate vocational schools at the high school level?

Dr. LOOMIS. No, we do not.

Senator DOMINICK. It is integrated with your high school?

Dr. LOOMIS. Yes, sir. Our long-range plan calls for several area facilities serving comprehensive high schools so the youngsters can still remain in a comprehensive high school setting and receive vocational education partly in a separate facility. At the post high school level we have a comprehensive community college with a mandate from the State legislature that they must give high priority to vocational technical education. So, our figures in our State would be difficult to arrive at under those circumstances.

We tend to look, Senator, at the total number of youngsters we can keep in high school until they are completed, and then our figure is about 70 to 72 percent retention statewide. Our concerns get into areas like metropolitan Portland where we know that 1,200 to 1,500 youngsters just in the Portland school system per year drop out. This is part of a major project that we are working on to develop a program for both the dropout and others.

Senator DOMINICK. We have also had some figures given to us at some point, not in these hearings, but in connection with other matters, that 98 percent of the graduates from vocational schools get jobs. Does that figure ring a bell for you? Would that be just in the vocational school, or are we talking about vocational training programs that go along with your high school, regular high schools?

Dr. LOOMIS. I would assume, Senator, without having seen the source of your information, that probably they are talking about graduates of vocational programs, regardless of whether they are in a comprehensive high school or community college or separate vocational school. We would have following up information on different institutions, but we usually do not quote a statewide figure unless we are asked specifically to on this.

Senator DOMINICK. What you are saying, in effect, is that you really do not have a breakdown in Oregon to determine how many of the boys and girls who are going through what could be called liberal

arts courses in high school drop out as compared to those who are going through the vocational training in high school? Do you have a breakdown of those?

SOUTH CAROLINA DROPOUT RATES

Mr. JOHNSON. Mr. Chairman, may I comment to Senator Dominick? This I believe is in relationship, and I would like to give you some figures from South Carolina on the dropout periods for the total educational program, and then respond to a degree with some of the figures that we do have knowledge of concerning students that are trained in vocational education offerings. Forty-six percent of those who enrolled in first grade—these figures are for South Carolina—graduate from high school. Of course, which means 54 percent go out in the world of work without a high school diploma. All right now, go on to those who do graduate, 33⅓ percent of those go on to college or post-high-school training of some type, and then, of the number that leaves, 66⅔ percent go out into the world of work directly upon graduation from high school. Now, based upon the study made in our State in 1965 of those who do graduate from vocational offerings, whether they be in secondary or postsecondary levels, excluding the ones who did go on to college for advanced degrees, those that went into military, there was less than 3 percent who were unemployed, who could not be accounted for as having jobs and obtaining a degree of success on jobs.

Senator DOMINICK. Well, that fits in in general with the picture that I have.

Mr. JOHNSON. This is in general. Then less than 3 percent were unable to get jobs and did not get jobs. Now, I am sure that we have other States that have made similar studies and, Mr. Burkett, I believe we provide additional information for the committee.

Senator DOMINICK. This is in comparison to the Job Corps camps which have been very, very unsuccessful to say the least in trying to get people trained to hold jobs when they get through, at a very high expense, which is one of the reasons why I thought we ought to put more emphasis on vocational training.

Dr. LOOMIS. Mr. Chairman, I wouldn't like for Oregon to be on the record as not having responded to the Senator's direct question. I would say we do have followup information at the community college level and on various high school programs, but to maintain a comprehensive followup record beyond the first year that they are out of school has been beyond the limits of our funding so far. We have a comprehensive plan of continuing evaluation for vocational programs that calls for both what we call a qualitative approach and a quantitative approach. When you get to the quantitative approach, we are saying there ought to a 3-year and a 5-year followup of all graduates and for all those who have been in vocational programs, and we are in the process of instituting this now. The U.S. Office of Education requires information each fall on the placement from the graduates each spring in both the high school and secondary level, but the dangers of some of that, we feel, is we need a longer followup period.

Senator DOMINICK. I don't know, this comment may have been made, Mr. Chairman, but Senator Javits said the other day the

amounts of money that are needed for these various programs are enormous and perhaps we had better keep in mind that the Federal Government is often far more busted than other respective States, and this is no exception this year.

Mr. Moss. Mr. Chairman——

Senator MORSE. Yes. While you were testifying. Dr. Loomis, I thought back to a visit I made last fall to the community college at Coos Bay. The vocational training program there fascinated me. This program was preparing people for the lumber industry which is rapidly becoming automated. I recall that the professor in charge of that program indicated one problem was in keeping students in the program to complete their training because the demands for their skills are so great. There is no question of placement there.

Dr. LOOMIS. Mr. Chairman, could I make one last comment?

Senator MORSE. Yes.

Mr. LOOMIS. In connection with what Senator Dominick has mentioned, I am certainly aware of the fact that we are, there is an end to funds somewhere. We know, due to the accounting system that we have in the community colleges, the separate cost for vocational technical programs. In each institution we have a statewide figure, and last year we were spending a little over $800 for full-time equivalent students in the vocational technical programs, and I think you find that this compares pretty favorably to the programs funded and administered by other Federal and State agencies.

Senator DOMINICK. Thank you very much.

JOB CORPS V. VOCATIONAL STUDENTS

Senator MORSE. Is it true that there may be one great difference between many of the students that go into the vocational training program that falls within the jurisdiction of both the high school and the community college and junior college, and the student who goes into the Job Corps training program. The former type of student does not represent the type of student for which you have now adjustment problems; they are stable, well-adjusted people that have an interest in preparing themselves for technical training. As to our Job Corps students, on the other hand we are dealing with dropouts, we are dealing with cases that have had behavior problems, emotional disturbances, and that has not only increased the dropout rate, but it has also increased the cost of construction. Is that a fair observation to make in our comparison of vocational training costs and in Job Corps costs?

Dr. LOOMIS. Yes, sir. Only if you assume that 25 to 40 percent of the high school youngsters that are in high school, and there have been some studies made nationally, that contend that about 25 or 40 percent of the kids are called sit-ins or near dropouts, that some of those kids really end up dropping out.

In addition to the dropouts, we contend in Oregon if we can implement the program that we have drawn up in the Portland public schools and two or three other counties that have pockets of poverty, we can head off the kids either dropping out of high school or improve the program for those that are sitting in. I do not mean to imply that the Job Corps program does not fill a real need. We just feel that

we can head this problem off at less cost within the regular public school system, and we are prepared to do so in Oregon.

Senator YARBOROUGH. Mr. Chairman, I want to congratulate the chairman on clarifying this point. I think there is a vast difference between children in school and those who have dropped out and we try to reclaim through the Neighborhood Youth Corps or the Job Corps. I think that points out the cost of the so-called failures and you are dealing with some, as you have pointed out, with a maladjustment problem and some have had law violations. Of course, not serious levels, but enough to kind of put them outside the range of their schoolmates, and it cost a lot more money. I think that very point points out the unfairness of this Bureau of the Budget recommendation that we abolish this work-study program in the regular schools and put it all in the Neighborhood Youth Corps. We would be taking the regular students, knocking them out, and putting them over to those who have maladjustment problems. It seems to me it is one of the most unsound recommendations I ever saw. Let me ask you, Dr. Loomis, in what percentage of the counties of Oregon do you have this vocational work-study program? In what percentage of the counties is the work study in the county?

Dr. LOOMIS. I would prefer to furnish that information for you. I could only answer it this way, that our community colleges, when we mention community colleges, may represent one, two, three, or four counties.

Senator YARBOROUGH. You have this in the high schools also?

Dr. LOOMIS. Yes, sir; high school and community college level, and if you would like this information I would be glad to provide it. I do not happen to have it.

Senator YARBOROUGH. I have a question of Dr. Johnson of South Carolina. Did I understand you to say that 46 percent of all the students who enrolled in the first grade in South Carolina, graduate from high school?

Mr. JOHNSON. That's right, sir.

Senator YARBOROUGH. That is a terrific percentage. I congratulate you. In my own State, of those who graduate from the eighth grade only 46 percent from high school. Now, many have dropped out before the eighth grade. But, I have made some study of that in an effort to work to upgrade education in my State. That is vis-a-vis the record of say, Wisconsin, of 92 percent of all students who graduate from eighth grade graduate from high school. Your statement rates very high on this record.

HOLDING POWER OF VOCATIONAL EDUCATION

Mr. JOHNSON. Mr. Chairman, on that comment I would like to make an observation here for the record. We have some rather convincing evidence that vocational education programs have holding power and prevent students from dropping out. I do not believe that you are going to find that the percentage nationwide is in keeping with the figure that you recently quoted earlier concerning New York City programs. I am convinced that vocational education programs prevent students from dropping out of school rather than having a higher percentage of those enrolled in vocational education programs

dropping out. I believe we can present the information that will confirm this observation.

Senator YARBOROUGH. Mr. Chairman, my statements here have not meant to be in disparagement of the Job Corps. They have met a different problem. Mine have been directed to the point of not destroying the successful system and yet to put these groups over with those who already are dropouts who have separate objectives, and I think it could be very unwise to destroy the fine vocational work being done in the high schools and community colleges, junior colleges, and in elementary schools. I think in some areas we have recommendations to expand and let the people earlier get into this, the ones who might be dropouts, before they finish elementary schools, but would go into vocational training if we had this avenue open to them. I think it is unwise to abolish this regular school and throw it over to the dropout school because we have got some dropouts. That's exactly my opinion of the Bureau of the Budget's recommendation.

Senator MORSE. I want to say, Dr. Loomis and members of the panel, in title V of the Higher Education Act which included my amendment for fellowships for teachers, I included vocational education teachers. Now, I want to keep it, if you people testify, can testify that it is performing a service. What has been your experience?

Dr. LOOMIS. I cannot respond to that, Senator, at the moment, if you mean this amendment, because we have not had any experience to benefit from.

Senator MORSE. Well, you couldn't very well get experience because it is in the proposal for 1967, but strike what I said. My question is this: If we can retain it in the higher education bill and it is available to provide fellowships for vocational education teachers, is that going to give you some relief on some of the programs we are talking about this afternoon for teacher training?

Dr. LOOMIS. Yes, sir. I think our only concern is that the total amount is inadequate and we may not get much of it for vocational teachers.

Senator MORSE. I had better earmark it then, had I not? I had better make clear the language in the committee reports, better put in the language that some of it is earmarked.

Dr. LOOMIS. This would be very helpful.

Mr. MOSS. Mr. Chairman, may I speak to that point for just a moment? With respect to title V of the Higher Education Act and the impact upon vocational education teachers, part of the study which has already been referred to by the American Vocational Association and the State directors, has indicated that the State directors feel they need between $24 and $30 million yearly in order to accommodate teacher training needs in the several States. The title V, and especially part D of title V which is most directly applicable to preparation of inservice and preservice training of vocational teachers, provides for a maximum appropriation, as I understand it, of $90 million yearly for all educational fields. We feel that the maximum authorization is inadequate for the total job that needs to be done.

Senator MORSE. That is very helpful.

(The prepared statement of Dr. Loomis follows:)

PREPARED STATEMENT OF DR. WILLIAM G. LOOMIS, DIRECTOR, VOCATIONAL EDUCATION IN OREGON

Chairman Wayne Morse, and members of the subcommittee on Education, I am William G. Loomis, Director of Vocational Education in Oregon, representing the National Association of State Directors of Vocational Education.

My statement concerning S. 1125 will be directed primarily toward the contribution the Vocational Education Act of 1963 has already made to the development and growth of vocational education and the scope of the problems we still face, and toward the amendments to P.L. 88–210 that the State Directors believe are needed to permit vocational education to realize its full potential in helping to solve the nation's social and economic problems.

In the belief that the accomplishments and needs of vocational education in Oregon are generally representative of those in the other states, I would first like to cite some of the accomplishments and problems in our state.

The passage of the Vocational Education Act of 1963 has had a tremendous impact upon vocational-technical education in Oregon. Its contributions can be supported with facts and figures. I would like to identify a few of them.

● The impetus provided by this Act has stimulated a re-examination of education at the secondary and post-secondary levels. Closer scrutiny of educational programs has resulted in an increased awareness of the extensive need for vocational training and occupational competency education.

● In the 46 years prior to 1964, enrollments in vocational education secondary programs gradually grew to 12,000. By contrast, following the passage of the Act, the enrollment has increased more than 100% to a total of 24,820. As shown in the following table, a similar dramatic growth in post-secondary enrollments also took place.

TABLE 1.—*Oregon enrollments in vocational education, 1963–66*

Year	Secondary	Postsecondary
1963	11,827	2,166
1964	13,592	2,395
1965	23,705	4,027
1966	24,820	4,703

The funds provided by the 1963 Act have greatly stimulated the allocation of the additional state and local resources to vocational programs. Table 2 illustrates the increasing amount of funds expended for vocational education. In two years, federal fund expenditures have increased 380%, stimulating an increase of 370% for state funds and 280% for local. It should be noted that the table includes only a small fraction of the state and local money that has been expended for both secondary and community college equipment and construction since only funds identified for matching purposes are shown.

TABLE 2.—*Oregon expenditure of funds for vocational education, 1964–66*

Year	Federal	State	Local	Total
1964	$590,000	$683,000	$1,166,000	$2,439,000
1965	1,670,000	1,433,000	2,036,000	5,139,000
1966	2,298,000	2,501,000	3,247,000	8,046,000

In 1964, Oregon had nine community colleges in the developmental stage, and no area high school facilities. Today, there are 12 community colleges in operation that serve large areas of the state and two area vocational facilities for secondary school students being constructed. One area facility will serve 10 high schools in Portland and the other will serve three high schools in Milwaukie.

Since the passage of the 1963 Act, *area studies* have been completed in 27 of the 36 counties as a systematic approach to developing comprehensive informa-

tion on the state's manpower requirements and employment opportunities, the human resources, and the available and needed educational facilities. As a result of these studies, new insights were gained into the vocational education problems of our state's secondary and post-secondary institutions. Special attention was focused on the vocational education problems of small high schools, geographically isolated communities and single-industry communities, as well as to the large city problems. These studies have resulted in increased activity in the areas of curriculum development, program evaluation, occupational counseling, job placement and follow-up, and programs for the disadvantaged. They also further evidenced the need to develop an efficient and effective method of providing vocational education for 50% to 60% of Oregon's high school students.

The requirement of expanded employment data resulted in an increased allocation of funds by the State Legislature to the Oregon Department of Employment for development of employment data on a statewide basis. Monies were also allocated for periodic updating of employment information. The data provided by the statewide employment survey are being used extensively for both immediate and long-range vocational education program planning in secondary and post-secondary institutions.

Work-Study funds have met a real need in cities as well as rural areas of Oregon and in the high schools and the community colleges. Federal funds were not available until after schools were in operation in 1964–1965, but all available funds were utilized. The second year we were over-subscribed some 50 percent. The third year, due to a reduction in appropriation and an increasing demand, the request for funds was more than twice the amount available. Table 3 shows the number of students who were able to benefit from vocational education through the financial assistance afforded.

TABLE 3.—*Work-study participation*

Year	Number of schools	Number of students
1964–65	5	191
1965–66	14	918
1966–67	12	655

Federal vocational funds and state staff effort have been used to assist local educational agencies in identifying needs and developing programs for persons with special needs.

Illustrative of this effort has been the development of a project known statewide as the Personalized Education Program. The state staff with the aid of special consultants and school officials in Portland and other selected areas of the state, especially those with poverty pockets, have designed and are in the process of implementing a major demonstration project aimed at meeting the needs of high school dropouts and near-dropouts. This project is scheduled to serve some 20,000 students with special needs over a five-year period. This personalized educational program will include provisions for utilizing special residential facilities when such environmental change is deemed necessary.

School officials, legislators and others in Oregon believe this type of effort on the part of the public schools can make a major contribution toward meeting the needs of these dropouts and near-dropouts.

Although significant progress has been made toward meeting the objective of "making vocational education of high quality available to all persons in all communities", much remains to be done in bringing more resources to bear on program expansion and improvement. The following are some of the more prominent areas of need in Oregon's program.

Based on the conservative assumption that at least 50 percent of the students in grades 11 and 12 can benefit from vocational-technical programs, it is anticipated that Oregon's vocational secondary education programs will need to be expanded to provide occupational preparation for 40,000 by 1975. Table 4 shows the needed rate of growth.

TABLE 4.—*Projected vocational education enrollment in grades 11 and 12 by occupational area, 1965–75*

Occupational area	Enrollment projections		
	1965	1970	1975
Agriculture	1,798	2,493	2,958
Distribution and marketing	1,300	5,150	7,715
Office	8,400	9,810	10,753
Personal service	100	3,395	5,597
Trade and industrial	900	8,130	12,952
Total	12,498	28,978	39,975
Home economics (other than gainful employment)	7,600	19,650	20,800

The critical problem is that of expanding vocational programs and facilities at a rate sufficient to meet the needs of students now in school.

Vocational education enrollment in Oregon's community colleges is also expanding at an unprecedented rate. Enrollment projections to 1975 (Table 5) indicate a growth to approximately 15,000 full time equivalent students (FTE) or about 45,000 youth and adults.

TABLE 5.—*Projected community college vocational education enrollment by occupational area, 1965–75*

	Actual FTE [1]	Projected FTE [1]	
	1965	1970	1975
Total vocational	3,097	9,365	15,216
Agriculture	229	693	1,126
Distribution and marketing	598	1,808	2,937
Office	833	2,519	4,093
Personal service	434	1,311	2,130
Trade and industrial	1,003	3,034	4,930

[1] Full-time equivalency is based on a student load of 20 clock hours per week in class or laboratory.

This rapid enrollment increase poses financial problems for the community colleges, both in program operation and in construction of facilities.

The stimulating effect that the federal funds have had will be reduced considerably in the future unless they continue to provide for a significant percentage of the total resources available. In 1966 the amount of federal funds expended for operating costs per full-time equivalent community college student in Oregon was only $107 against a total cost of $831. The amount of federal reimbursement per vocational high school student in Oregon was $43 compared to an average per pupil cost for all secondary students of $600.

Oregon estimates indicate that the following funds could be used effectively for vocational education during the next three years:

TABLE 6.—*Vocational funds needed and available*

Fiscal year	Total needs	State and local	Federal appropriation
1968	$18,150,000	$12,300,000	$2,548,00
1969	26,050,000	13,550,000	(1)
1970	28,050,000	15,300,000	(1)

[1] Unknown.

Present plans include increasing the number of community colleges from 12 to 18, and the number of area high school facilities from 2 to 11. Two community colleges and three area facilities are in the active planning stages now.

A $10,000,000 state appropriation for community college construction for the 1967–69 biennium is not sufficient to provide the needed vocational facilities. Estimates for the immediate years ahead indicate a need for at least $6,000,000 for the nine additional vocational area facilities to serve high schools.

There is a strong need to expand vocational research activities in the state, including pilot and demonstration programs, in order to develop more efficient and effective programs, particularly suited to local and state conditions. These activities will be extensions and applications of our efforts to date and will include:

The implementation of recently developed projects that will further the concept of self-understanding through occupational exploration as a part of a guidance continuum through the elementary, high school and post-high school educational process.

Curriculum development based on the systematic study of manpower needs and human resources.

The application of a comprehensive evaluation system that has been designed to assess the relative value and effectiveness of Oregon's vocational education programs. The system will relate input data about human resources and job opportunities to existing and needed programs.

High school and community college officials are unanimous in their support for Work-Study funds available under P.L. 88–210. Transferring this activity to the Neighborhood Youth Corps is not a satisfactory substitute. Many schools and colleges conducting vocational programs do not find it convenient to participate in the N.Y.C. program.

Assurance of continuing and increased funding under P.L. 88–210 with a matching provision similar to programs funded under other agencies would make year-to-year operation more effective and efficient. A recent survey indicates that Oregon's needs for the current year are more than twice the amount available for 1967.

With the aid of P.L. 88–210 funds, Oregon school officials have identified what they consider to be *practical solutions* to meeting the needs of a major portion of *youth with special needs*. Federal funds are needed to implement such projects. Under existing legislation this must be funded through multiple agency participation. *This is a slow process!*

The need for a substantial increase in vocational education has been identified. The youth and adults needing education of this type are with us now. The need is immediate and real. In order to meet this demand it is apparent that a continuing partnership of the local community, the state and the federal government is needed. With the present levels of financial support the federal contribution to this partnership is rapidly falling behind. It must be increased if the federal partnership is to continue to play its appropriate role.

It has been my purpose in the testimony to this point to show some of the ways Oregon's program has been stimulated and expanded as a result of the Vocational Education Act of 1963 and to outline some of the more important problems and additional needs before us at this time. Information available to me indicates other states are having similar experiences.

The State Directors of Vocational Education held a special meeting on January 22 and 23 of this year to consider legislation essential to vocational education. At their regular semi-annual meeting in May, they again considered pertinent legislation. We appreciate the opportunity to make known to this committee the State Director's thinking on legislation under consideration.

The State Directors strongly support the *basic concepts* of "exemplary and innovative programs and projects" provided for in S. 1125, Title II—Amendments to Vocational Education Act of 1963. A most critical weakness in the education of disadvantaged and non-college bound youth in the usual school setting is *the lack of programs* to broaden their occupational aspirations and opportunities and to provide vocational guidance and initial job placement. This proposed amendment will assist in alleviating this weakness.

The State Directors object to only one feature of this proposed amendment. The Commissioner would have authority to make grants or contracts with State Boards *or local educational agencies and other organizations*. Since it is important to have these programs closely coordinated with other exploratory and vocational programs in a statewide plan, the Directors strongly urge that the proposed appropriation of $30,000,000 be allocated to the State Boards for distribution within the respective states.

In addition to this amendment proposed in S. 1125, the State Directors' Association respectfully commends to the attention of the Subcommittee on Education of the Senate the following changes urgently needed by vocational education if it is to play its appropriate role in the days ahead in eliminating poverty and solving other social problems of our society, including meeting the manpower needs of our nation:

1. Based upon a nationwide study this last year which was designed to project the need for federal *vocational funds*, the State Directors recommend that *the authorization for such funds to support the purposes set forth in Sections 4(a) and 4(b) of P.L. 88–210 be increased* as follows:

Fiscal year:	*Amount*
1968	$400,000,000
1969	600,000,000
1970	1,000,000,000

2. The State Directors recommend that funds for *research and development activities*, as provided for under Section 4(c) of P.L. 88–210, should be provided for annually at the full 10% of appropriation of the Act. *The Directors further recommend that these funds be allocated as follows*:

a. 50% of such funds allotted for research should be allocated to the States in accordance with the already established formula for allocating other funds, except that research funds should be on a non-matching basis.

b. All elements of Section 4(c) should be studied to determine the agency most appropriate for carrying out the following functions:

(1) Leadership Development, such as institutes, conferences and workshops

(2) Applied Research—Basic Research

(3) Experimental and Demonstration Projects

It is also the opinion of the State Directors that the leadership development programs as well as experimental, demonstration, and pilot projects that are justifiable at the national level might best be authorized, funded, and supervised by the Division of Vocational Education in the Bureau of Adult and Vocational Education, which has a closer working relationship to the operation of vocational programs than does the Occupational Research Division in the Bureau of Research.

3. The State Directors believe that the *Work-Study Program* provided for under P.L. 88–210 should be continued and expanded as amendments to the Act.

a. The Directors recommend that the matching provisions be on a 90%–10% ratio between federal and state funds expended as compensation to students. This ratio would be consistent with similar programs funded through other agencies.

b. The Directors suggest increasing the amount allotted for the administration at the state level be increased from one percent or $10,000, whichever is greater, to two percent of such allotment or $20,000, whichever is greater. This should provide for sufficient administrative funds at the state level to make effective use of funds allocated locally.

c. In general, it is agreed that no portion of the federal Work-Study funds should be used for the local supervision of programs. However, some states with large cities believe that funds could be used to a good advantage to provide for leadership in these metropolitan areas which have extensive work-study programs involving large numbers of disadvantaged youth.

4. It is the consensus of the State Directors that federal funds should be provided for the construction and operation of *residential schools* and that such centers can be operated most effectively efficiently under *State and local control*. The Directors further recommend that provision be made for 90 percent federal assistance for the construction and equipping of such facilities and 75 percent assistance for operating cost for an indefinite period.

5. The State Directors strongly support special federal assistance in *teacher education*. Projected program growth throughout the nation is placing unprecedented demands upon us to provide a variety of teacher preparation programs. This includes pre-service and in-service programs, institutes, workshops, cooperative efforts with business and industry, fellowships and internships, as well as graduate study. The Directors believe that additional funds for these purposes can best be allocated through the State Boards for Vocational Education in the same manner as other vocational funds are administered.

In concluding my statement, Mr. Chairman, may I say that those of us working in the field of vocational education throughout the country believe that the record

will show, at any time you wish to review it, that federal funds expended through the provisions of P.L. 88–210 have been spent wisely and effectively. Such funds, coupled with state and local effort, are providing sound programs of occupational instruction for an increasing number of youth and adults. The Federal-State-Local relationship provided for under this legislation has stood the test of time, demands placed upon it by national emergencies, and the mandates of Congress.

At the present time, there are still serious gaps in practically all states in the structure of occupational education for all youth and adults which must be filled. The increasing difficulty encountered by local school districts, including post-high school institutions in financing the "conventional" program—not to mention an adequate vocational education program—indicates the need for greater federal participation in this investment in human resources of our nation for tomorrow.

Those of us assigned the responsibility for planning, developing, and maintaining effective vocational education programs in the states strongly urge your support of the additional funds provided for in S. 1125, Title II, Amendments to Vocational Education Act of 1963, with the change in the administration of these funds, as previously noted. The State Directors also urge your early consideration of other critical items of legislation which are needed to expand and improve programs operated under the provisions of P.L. 88–210.

Senator MORSE. Who is next on the panel?

STATEMENT OF DONALD B. BARBIERI, DIRECTOR, VOCATIONAL EDUCATION, SECOND SUPERVISORY DISTRICT, WESTCHESTER COUNTY, N.Y.

Mr. BARBIERI. Mr. Chairman, my name is Donald B. Barbieri. I am the director of vocational education for the Second Supervisory District of Westchester County, N.Y. As director, I am responsible for the administration of the Mid-Westchester Center for Vocational Education, a newly emerging area center attempting to meet the vocational education needs of 28 school districts on a shared-service basis.

The basic problems facing me daily of administering a program in vocational education are typical of those facing local directors throughout the length and breadth of the Nation. In behalf of my colleagues, it is to these problems and concerns that I would like to address myself today.

AREAS OF CONCERN

I am concerned with the critical shortage of qualified teachers in all areas of vocational education and with the training opportunities available to them through preservice and inservice teacher training programs.

I am concerned with the critical shortage of trained administrators and supervisors knowledgeable in the field of vocational education and prepared to assist in the development of a coordinated system of vocational education centers that will reach every person in the Nation.

I am concerned with the lack of a well-coordinated program in vocational education research which would undertake the task of providing our guidance counselors with the necessary tools to perform an appraisal of an individual's assets and thereby provide a realistic program for vocational education selection that is truly based upon the needs and qualifications of the individual.

I am concerned with the lack of continuity in curriculum planning and the need for developing multitrack, cluster programs.

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I am concerned with the need for further research into the nature of our disadvantaged youth and with the improvement of techniques intended to identify and remediate their education problem in sufficient time to prevent their dropping out of school permanently.

I am concerned with the need to operate from inadequate, rented, make-do facilities and with the lack of research information relating to facilities development which will serve as models for the area centers of the future.

I am concerned with the never-ending stopgap legislation intended to bring vocational education opportunities to people with special needs without any apparent attempt to coordinate these programs with those already operating in the area.

I am concerned with the lack of vocational education programs that are designed to meet the needs of the handicapped and retarded groups who, if provided with sufficient training opportunities, could become self-sufficient, contributing citizens.

I am concerned with the need to change the image of vocational education in the minds of our people from one of a "blackboard jungle" to one which is accepted as part of the "mainstream" of the educational life of each person.

I am concerned with the ever-increasing financial burden that must be carried by our local communities in order to provide a total quality educational program.

I am concerned about the lack of adequate work-study funds and the need to curtail the number of youngsters who could have been assisted, had sufficient funds been available.

I am concerned with the provision of additional educational opportunities for our adults who are sorely in need of retraining and upgrading their current skills.

I am concerned with the people who are denied the opportunity for vocational education by virtue of where they live, when such persons could be adequately aided by developing a system of residential schools.

As you can see, my list of concerns is extensive. It contains a series of exciting challenges—sufficient to last a lifetime. Understandably, I would suggest four steps which should be taken immediately to solve those problems that are currently plaguing us.

PROPOSALS

First, Congress should provide earmarked funds insuring a continuous supply of properly trained vocational teachers. These funds should be used to update qualified vocational teachers in new technologies and educational methodologies. Such funds should also be used to aid selected candidates to attain their baccalaureate degree with emphasis on vocational education, thereby providing a steady supply of certified future administrators and supervisors.

Second, create a National Vocational Curriculum Resource Center. The Center would serve as a clearinghouse for all development in curriculums appearing anywhere in the Nation and would have the added ability to reproduce and disseminate copies of materials to all persons requiring its services. Concerted efforts channeled through one agency

would insure that innovative and creative ideas developed in one part of the country would receive rapid distribution throughout the entire country.

Third, provide for the development of a national, public relations unit, staffed jointly by governmental agencies and industrial associations, and guided by the sole purposes of improving the vocational education image across the Nation.

Finally, provide funds to assist youths with special needs through an enlarged and extended work-study program under the control and supervision of established public education agencies.

When a steady supply of vocational teachers and administrators has been assured, and when a coordinated effort to resolve curriculum problems has been made, the future role of vocational education will only then be attuned to meeting the continuing technological changes affecting the well-being of our skilled manpower and of our national security.

May I at this time express, as a citizen, my pleasure and gratitude for the opportunity to testify before this subcommittee.

Senator MORSE. I want to say that was a very thoughtful and stimulating, as far as my committee is concerned, challenging outline of legislative opportunity and I hope we will be able to respond to some of it this year. Mr. Johnson and Mr. Burkett and Mr. Loomis, you—we know our work is cut out for us. As Senator Dominick said, we do not have as large a melon to cut up as we wish we had, but accurately distributing the melon, not to deep freeze it and let it go to waste, I do not know where I would start first or where we should start first in the way of emphasis in this list of concerns that you have expressed. In view of this discussion, the record that you are making will be your fault. This panel that you have here has given us the basis for the legislative reforms that we think we need in this field. My own personal view is that the Bureau of the Budget just has not recommended the amount of money that ought to be recommended in this field. Therefore, some of us have got to think about offering amendments to the amount.

I want to thank you very much since I think you—also Dr. Burkett and Dr. Johnson.

Miss Stovall, we will be very glad to have your comments.

Senator DOMINICK. Mr. Chairman, I just wanted to ask a question.

Senator MORSE. Oh, I apologize.

TEACHER SUPPLY SOURCES

Senator DOMINICK. That is all right. I wanted to ask just a couple of questions. Your first area of concern, I see, is in teachers, and the first suggestion you make, is that we provide some funds for properly supplied and trained teachers, both for obtaining new ones and for keeping and upgrading the present teachers. Where does your supply of teachers for vocational training come from now?

Mr. BARBIERI. Well, currently, Senator, it has been the practice and I think a good one, to seek our future educators in a field of vocational education from the ranks of those people who had meaningful occupation experiences and who have indicated a desire on their part to now come and help train the youth of the Nation.

Senator DOMINICK. Are these people who are in businesses or things of that nature?

Mr. BARBIERI. Businesses, industry, these are people who have had generally valid kinds of experiences in industry who are prepared to undertake a new career in professional training so that they can enter the ranks of the teaching field.

Mr. DOMINICK. Do the respective States have qualifications that they need to pass special educational courses before they can go into the vocational schools?

Mr. BARBIERI. I think that each of the separate States have exercised their individual options as to what the specifics of that type of training would be, Senator.

Senator DOMINICK. Is this helpful or harmful? I would think it would be harmful because it would very much restrict your choice of who you can hire.

Mr. BARBIERI. My own personal feeling is that it has been helpful in New York State to seek those people who are qualified by background and experience to best do the job. It has to some degree put a hardship on these people because generally they are mature, they are people who probably have families, and they make fantastic sacrifices to become teachers. However, that notwithstanding, the quality of the referred to by these other gentlemen of what is being accomplished by these people I think is self-evident. By and large, I think the fact that they are mature and that they do understand the nature of the world makes them much more attuned to youngsters they have in the classroom for training.

CERTIFICATION PROBLEMS

Senator DOMINICK. Well, I understand that and I am, as I said, thoroughly sympathetic with what you are doing. What I am trying to do is to see if there is not a method of alleviating the teacher shortage, other than by just pouring Federal funds into a program. Is it possible that you can do it better by releasing or relieving some of the restrictions imposed by the States as to who can teach?

Mr. BARBIERI. I do not think that I am in a position to address that question, Senator.

Mr. BURKETT. Senator, I think you will find that most of the State plans for vocational education have about the similar requirements in regard to qualification of the teachers these, being primarily in terms of trade and technical education. I think these standards that have been established are pretty well recognized and are important to the success of good vocational education. If these standards were lowered in any way we could perhaps expect less quality in the programs, and I think it is a question of quality or quantity.

Dr. LOOMIS. Senator, I have probably talked too much, but since we are talking about State level activity, could I respond just a moment to this?

If you are talking about agricultural education teachers or business education or distributive education they usually come the route of 4-year institutions, normally, although we have provisions in our State to pick a person out of industry in any of those areas without any formal teacher training and let them pick it up as in-service teacher train-

ing. Now, if you look at the trade and industrial areas, instiutions may employ a person directly out of business or industry. The problem then becomes providing him enough professional education courses, if you want to call it that, or teacher education from year to year. If we don't have some way to help him in the summers he will go back into industry or cannot afford to stay with us.

Senator DOMINICK. OK. Thank you very much.

Miss Stovall.

STATEMENT OF RUTH STOVALL, STATE SUPERVISOR, HOME ECONOMICS EDUCATION, STATE DEPARTMENT OF EDUCATION, MONTGOMERY, ALA.

Miss STOVALL. I am Ruth Stovall, State supervisor from Home Economics Education in Alabama and I am here to testify for a specific aspect of the vocational education program which is vocational home economics. This is a program with two prongs, one of which is training for the occupation of homemaking, which was provided for in the Smith-Hughes and the George-Barben Acts; and the other part is training for gainful employment in occupations involving home economics knowledge and skills, provided for in the Vocational Education Act of 1963.

Senator DOMINICK. Miss Stovall, why do you not just go ahead, and if this is satisfactory with you we will put your whole prepared statement in the record, of course, and you can highlight whatever portions you feel like.

Miss STOVALL. I will be happy to do that, and I was pleased to hear Senator Morse say that the committee carefully studies written testimony in full before making decisions or recommendations.

I do want to take time, however, to thank you for what you have already done, through the years to provide Federal support for vocational home economics as a part of the vocational education movement. As the result of the Smith-Hughes Act and subsequent vocational education acts, home economics has developed into a vital program that is concerned both with the development of the human being and the home that nurtures him.

As a Congress, you have thus paved the way for home economics programs which go beyond the classroom into the homes and lives of the students. The home economics field touches the lives of all of us in the meals we eat, whether at home or in restaurants, the clothes we wear designed for easy care and wrinkle prevention, the appliances and home equipment designed for efficient living, the buying know-how in the market, the methods of child rearing and the ideals of family life. All are rooted in home economics subject matter. Home economics courses include instruction in the many aspects of homemaking and parenthood.

We greatly appreciated the opportunities you have made possible through the Vocational Education Act of 1963 to develop programs for gainful employment in occupations involving home economics knowledge and skills.

However, education for wage-earning supplements but does not replace the traditional role of vocational home economics which is preparation for the occupation of homemaking.

HOMEMAKING OMISSION IN 1963

Of grave concern to us was an injustice in Public Law 88–210 which limits Federal funds for the occupation of homemaking through the omission of this program in the Vocational Education Act of 1963. Today, I am speaking for the home economics teachers, administrators, and supervisors who strongly urge more Federal support for preparing individuals for the occupation of homemaking.

As a committee of the Senate you can open the door to a strengthened program for the occupation of homemaking through amending the Vocational Education Act of 1963 to include homemaking in the definitions of gainful occupation. This would be consistent with a definition now set forth in the Federal Register.

According to the statement of Rules and Regulations of the Federal Register, volume 31, no. 9, Friday, January 14, 1966, "gainful occupation is defined as including employment in the competitive labor market; practice of a profession; self-employment; homemaking; farm or family work; sheltered employment; and home industries or other gainful homebound work." It is this definition that we are requesting that you include as an amendment to the Vocational Education Act of 1963, section 8. This amendment will make possible the use of funds for the occupation of homemaking as well as for other home economics occupations. This does not mean the earmarking of funds, but including this definition as an amendment to Public Law 88–210 will enable State boards of education to use the funds for both aspects of home economics in relation to particular needs of the respective States.

There is an urgent need for Congress to make it possible for homemaking education to share in the funds provided in the 1963 Vocational Education Act and subsequently to share in any additional funds provided for vocational education as has been true with the Smith-Hughes and George Barden Acts. I urge the subcommittee to give serious consideration to this request because of both the long-range and the immediate influence of education for homemaking contributes to the welfare of this Nation.

HUMAN VALUES OF HOMEMAKING

Agriculture measures its accomplishments in dollars and cents and in crops and animals. Engineering sees its bridges, highways, planes, and powerplants. Commerce has its cash balances and industry has its goods. The product of agriculture is food and fiber. The product of industry is goods and services, but the product of home is people—human beings.

Vocational home economics is the only program offered in the public schools which is designed to prepare youth and adults for the universal occupation of homemaking. Success in this occupation is vital to every family.

In a home, where a child lives with hostility, he learns to fight and to hate. When a child lives with recognition, he learns that he is a person of worth. When a child lives with honesty he learns what truth is. When a child lives with friendliness and trust, he becomes trustworthy and learns that the world is a pleasant place in which to live.

It was in the family circle that the Hebrew fathers nurtured their faith in one God. Today it is in the family circle that children continue to derive their beliefs, their values, and their ambitions. Schools cannot discipline the youth that parents do not train nor hold the youth that parents do not want educated.

The program of vocational home economics which has as its objective the betterment of homes and family life and hence the betterment of people, is limited only because of limited funds for program development.

Mr. Wesley Smith, State director of vocational education in California, addressed the Future Homemakers of America at the national meeting in Los Angeles, Calif., in July. Mr. Smith stated that as a vocational educator, he had had wide experience with hundreds of occupations but that the most demanding and the most distinguished, is the universal occupation of homemaking. He stated that—

> Of all the occupations in the world, none permits less tolerance of error than that of homemaking; for mistakes cannot be erased. When faulty products are found in business and industry they are scrapped, but this can't be the outlet for faulty products of the home. When workers in industry and business do not maintain their competency and keep their skills up to the current needs they become unemployed. But not so with the homemakers who fail to keep up with their competencies.

Mr. Smith said that—

> Except in the crucial occupation of homemaking, we are spending billions of dollars to provide job competencies in all other occupations. We seem as a nation to be oblivious to the need for training, for the most significant occupation of all. All about us are the effects of such oversight * * *. There is widespread unrest in youth today with measurable rebellion against both tradition and authority * * *. The aspirations of millions of youth in our country are very low. There are more school dropouts. Mr. Smith said that in California crimes by parents against their children are so numerous that at this very moment the California legislature is considering a statute that will require every county in the State of California to create a special division designed to protect abused and neglected children.

He said:

> I'm concerned that the task of homemaking, the task of rearing children, the task of preserving the family unit, be fortified with competencies because homemaking has become so complex and so crucial that it can no longer be left to chance or amateurs.

ECONOMIC VALUE OF HOMEMAKERS

Homemaking education also has economic value. Women, we are told, spend more than 80 percent of the money spent in this country. Although the homemaker may receive no wages as such for her services, the family income can be either wasted or conserved by her. Home economics instruction has an important part in programs for low-income families.

Although the homemaker may receive no wages as such, the occupation of homemaking has a monetary value in the form of "real income."

The Chase Manhattan Bank in New York, with the help of the bureau of labor, analyzed the cost of the services of the average homemaker and placed a conservative value of over $700 per month.

In another accounting, the cost to the father of providing substitute homemaking and child care for 20 years until the two children were grown was placed at $120,000.

Women working outside the home have become a way of life in America. Thus instruction in home economics is needed more than ever.

Competencies in home management on the part of the working homemaker can make the difference in a homemaker and a worker on the job who is efficient or ineffective.

Because of the purposes and the closeness of home economics to the realities of living, home economics as a field is fitted to serve many groups for which our Nation has great concern today, including secondary school students, postsecondary students, adults, the dropouts, the academically handicapped, the physically handicapped, the nonmotivated, and the economically deprived, most of whom may become homemakers.

Home economics has a unique contribution to the improvement of the economic status of low-income groups, reduction of juvenile delinquency, illegitimacy, and school dropouts.

Home economists are being utilized in the development of Headstart programs, OEO projects, and rehabilitation programs.

Through a strengthened program of home economics in vocational education, a preventive as well as a remedial approach will be made to help strengthen the American home and thus strengthen the Nation.

As a committee you have been discussing the work-study program. I would like to say that the provisions now embodied in the Vocational Education Act of 1963 and rules and regulations have made it impossible for our many students to participate in work-study programs regardless of how needy they may be. We may have in one school, classes for the education of students for jobs involving home economics knowledge and skills, and other classes for students who are preparing to be homemakers. Assistance for those persons preparing for homemaking is not available because of the present limitation of the act.

We greatly appreciate the support you have previously given to home economics and which you will doubtless continue to give.

Senator DOMINICK. Thank you, Miss Stovall.

(The prepared statement of Miss Stovall follows:)

PREPARED STATEMENT OF RUTH STOVALL, STATE SUPERVISOR, HOME ECONOMICS EDUCATION, STATE DEPARTMENT OF EDUCATION, MONTGOMERY, ALA.

Mr. Chairman and honorable members of the subcommittee, I am Ruth Stovall, State Supervisor, Home Economics Education, Vocational Division, State Department of Education, Montgomery, Alabama. I welcome this opportunity to testify in behalf of funds for Vocational Home Economics, which is a program with two prongs—training for useful employment or homemaking, provided for in the Smith-Hughes and George Barden Laws, and training for gainful employment in occupations involving Home Economics knowledge and skills, provided for in the Vocational Education Act of 1963 (P.L. 88210).

Vocational Home Economics in its traditional role is a field of study and service concerned with the development of the human being and the home that nurtures him. The Occupational aspect of Home Economics is concerned with the education of the person for a changing world of work.

A program that is concerned with both human development and occupational education is not just a matter of now, but it is a long-range program. It is not a crash program but a program of education.

As a Home Economics profession, we greatly appreciated the opportunities made possible through the Vocational Education Act of 1963 to develop programs for gainful employment through which students would be trained for

occupations involving Home Economics knowledge and skills. This program has added a new dimension to the Vocational Home Economics program. We are greatly heartened by the kinds and extent of the Occupational Home Economics programs which are being developed throughout the United States. This focus on wage-earning occupations supplements but does not replace the traditional role of Vocational Home Economics, which is preparation for the occupation of homemaking.

Of grave concern to us, however, was the limitation of Federal funds for the occupation of homemaking through the omission of this program in the Vocational Education Act of 1963. Today, I am speaking for the Home Economics teachers, supervisors, teacher educators, school superintendents, high school principals, and parents who strongly urge more Federal support for preparing individuals for the occupation of homemaking as well as for other occupations involving Home Economics knowledge and skills.

REQUEST FOR AN AMENDMENT TO VOCATIONAL EDUCATION ACT OF 1963 (P.L. 88210)

As a Committee of the Senate of the United States, you can open the door to a strengthened program of preparation for the occupation of homemaking through amending the definitions in the Vocational Education Act of 1963 to include homemaking as a gainful occupation. This would be consistent with a definition set forth in the *Federal Register*.

According to the statement of *Rules and Regulations of the Federal Register*, Volume 31, Number 9, Friday, January 14, 1966, "gainful occupation includes employment in the competitive labor market; practice of a profession; self employment; homemaking; farm or family work (including work for which payment is in kind rather than in cash); sheltered employment; and home industries or other gainful homebound work." It is this definition that we are requesting that you include as an amendment to the Vocational Education Act of 1963. This amendment will make possible the use of funds from this Act for programs of Vocational Home Economics to prepare students for the occupation of homemaking as well as for employment in other occupations involving Home Economics knowledge and skills. Including this definition as an amendment to P.L. 88210 will make it possible for State Boards of Education to use the funds for both aspects of Home Economics in relation to the needs of the respective States.

In presenting my testimony, I would like to mingle some history and philosophy in my statements.

VOCATIONAL HOME ECONOMICS—ITS HISTORY AND TRADITIONAL PURPOSE

Long ago Plato said, "What is honored in a country will be cultivated there." In America, because we value the home, we strive to strengthen, protect, and dignify it. A happy family life is a part of the great American dream. It is human to want it. It is traditional to want it to last.

Because we honor the American home, education for homemaking has become a valued part of the educational system in the United States. Vocational Home Economics is the field of study that provides education for home and family living and is the only course designed to prepare for the occupation of homemaking that is offered in the public schools.

Vocational Home Economics had its beginning back in 1917 with the passage of the Smith-Hughes Act for Vocational Education. When Congressman Hughes was working with Congressman Smith in drawing up the Smith-Hughes Law, Mrs. Hughes, a dainty little lady from Georgia, was with her husband in Washington. As Congressman Hughes and Congressman Smith were writing into the bill funds for Vocational Agriculture and for Trades and Industry, Mrs. Hughes kept saying to her husband, "Now, Hughes, don't forget the girls. Training for homemaking is important, too." Thus, Vocational Home Economics was written into the Act. Section 11 of the Smith-Hughes Act (P.L. 64–347) states that the controlling purpose of trade, home economics, and industrial subjects shall be to fit for useful employment.

Thus, Vocational Home Economics had its beginning as preparation for employment in the vocation of homemaking, which is the vocation the majority of girls enter and continue in for the greater portion of their lives, either on a full-time or a part-time basis. Because all girls are potential homemakers, Home Economics instruction has been developed to meet the needs of the urban girls,

the rural, the college bound, those planning to take jobs, the bright and the not so bright, the handicapped, the disadvantaged and those with advantages. All of these girls will marry and have homes of their own.

At a hearing of the Ways and Means Committee considering appropriations for education in Alabama, I heard a blind man speak in behalf of funds for Vocational Rehabilitation. He said, "Blind people are like seeing people in their hopes and dreams. We want to woo and wed and have a fireside and a job so we can support it."

Because having a home is the dream of every generation regardless of their role or station in life, education for homemaking is wanted for each new generation, not just in 1917 but even more so in 1967, because of our complex way of life.

Although Vocational Home Economics is an elective subject in school, through the years it has continued to be a popular subject. Dr. Harold Benjamin once said, "The most important subjects in the curricula are those which serve society, and any curriculum which does not lead students to do the jobs that people need done is inadequate—it is not a curriculum of action but merely a game of academic marbles."

Vocational Home Economics grew out of the needs of society and has been kept close to the concerns of pupils and families. The instruction has been based on real problems and the life-relatedness of the learnings has been a priority concern in curriculum development. Because Vocational Home Economics provides education for home and family living, it is more than a subject in school. It is a program that goes beyond the classroom into the homes and lives of the pupils.

Because of the demand for Vocational Home Economics, it has grown to be one of the largest programs of Vocational Education, but the needs have not nearly been met. In Alabama alone, we have on file applications for more than 300 additional programs which we have not been able to establish because of limited funds.

EDUCATION FOR THE OCCUPATION OF HOMEMAKING—VITAL TO THE NATIONAL WELFARE

I feel strongly that there is a need for urgency on the part of Congress to provide not less money, not the same amount, but more funds for Vocational Home Economics through making it possible for the homemaking aspect to share in the funds provided by the 1963 Vocational Education Act and subsequently to share in any additional funds provided for Vocational Education. I urge this Committee to give serious consideration to this request because of both the long-range and the immediate influence of education for homemaking on the welfare of this nation.

Agriculture measures its accomplishments in dollars and cents and in crops and animals. Engineering sees its bridges, highways, planes, and power plants. Commerce has its cash balances and industry has its goods. The product of Agriculture is food and fiber. The product of industry is goods and services, but the product of the home is people—human beings.

Vocational Home Economics is the only program offered in the public schools which is designed to prepare youth and adults for the universal occupation of homemaking. Success in this occupation is vital to the nation. It is a well-known fact that how we live together in families and what we are taught to live by influences the kind of people we become, and the kind of people we are influences the kind of nation we shall have.

In a home, when a child lives with hostility, he learns to fight and to hate. Oswald is an example. When a child lives with recognition, he learns that he is a person of worth. When a child lives with honesty, he learns what truth is. When a child lives with friendliness and trust, he becomes trustworthy and learns that the world is a pleasant place in which to live.

The family is the child's first experience with love and affection. As a child's first knowledge is gained, he relates these facts to his family world and thus gains his first concepts of life. The family is the child's first circle of citizenship. The family is where children get their values or fail to get something to hold to, to live for, and to live by.

It was in the family circle that the Hebrew Fathers nurtured their faith in one God. Today it is in the family circle that children get their beliefs, their

values, and their ambitions. Schools cannot discipline the youth that parents do not train nor hold the youth that parents do not want educated.

Churches cannot develop character when homes dodge their responsibilities. Courts and laws and welfare boards cannot control the wildness which families fail to tame or instill a sense of duty which homes have ignored.

The program of Vocational Home Economics which has as its objective the betterment of homes and family life and hence the betterment of people has become a mission for those of us in the profession. We are limited in our endeavors only because of limited funds for program development.

Vocational Home Economics is a program concerned with tangibles and intangibles, things and people. The Home Economics instruction is the merging and application of basic principles from the fine arts, physical and biological sciences, social sciences, and the practical arts. Principles which are drawn from these disciplines as well as principles from the Home Economics field are appropriately applied to home and family life.

Since the quality of family life influences the health, happiness, security, and motivations of each individual citizen and affects the efficiency of workers in every vocation, education for the occupation of homemaking is thus too significant to be left to chance. You can thus see why we are concerned that homemaking was not included in the occupations covered by the Vocational Education Act of 1963.

Mr. Wesley Smith, State Director of Vocational Education in California, addressed the Future Homemakers of America at the opening session of the National Meeting in Los Angeles, California, on July 10, 1967. Mr. Smith stated that as a vocational educator, he had had wide experience with hundreds of occupations but that the most demanding, the most distinguished, is the universal occupation of homemaking. He further stated that "of all the occupations in the world, none permits less tolerance of error than that of homemaker; for mistakes cannot be erased. No other occupation is as complex in its requirements for efficiency and proficiency. No other occupation is faced with more distractions; no other occupation is more influenced by the pace of change so evident today. * * * I have seen the upward spiral of competencies required for proficiency in all occupations. * * * Now, of course, there are some differences between the effects of incompetency in homemaking and incompetency in other occupational areas. When faulty products are found in business and industry they are scrapped, but this can't be the outlet for faulty products of the home. When workers in industry and business do not maintain their competency and keep their skills up to the current needs they become unemployed. But not so with the homemakers who fail to keep up with their competencies."

Mr. Smith went on to say, "It seems so strange that in all of the other occupations a person must reach a certain point of proficiency or have some kind of preparation before he or she can enter that occupation and then must maintain that state of proficiency and increase it while working on the job. * * * Except in the crucial occupation of homemaking, we are spending billions of dollars to provide job competencies for persons in all occupations *except* that of homemaker. We seem as a nation to be oblivious to the need for training, for systematic preparation for the most significant occupation of all.

"All about us is a growing stench of the effects of such oversight. * * * There is widespread unrest in youth today with measurable rebellion against both tradition and authority. * * * The aspirations of millions of youth in our country are very low. There are more school dropouts today than ever before. Family units disintegrate almost as fast as they are formed in many parts of the country. In our daily newspapers there's hardly an issue goes by without reporting crimes of wives upon husbands and husbands upon wives. In my own State, crimes by parents against their children are so numerous that at this very moment the California Legislature is considering for adoption a statute that will require every county in the State of California to create a special division designed to protect abused and neglected children."

Mr. Smith states further, "In my State again, it is no longer legal to issue a driver's license to anyone under 18 years of age unless he or she has had a course in driver training. * * * But there is no similar requirement for marriage in spite of the fact that the lack of such preparation causes more human damage, more economic loss, more societal misery than is the case of the failures on the highway. * * * This is a problem whose solution may well determine the destiny of the world—the solution of the problem of how the integrity of the family as a

societal and economic unit can be preserved in spite of the explosive forces that if not accommodated will overwhelm and destroy the family and the human beings who depend upon it for their protection, for their inspiration and for their love."

Mr. Smith challenged the Future Homemakers of America to influence the further development and further expansion of Vocational Home Economics so that every young woman in this nation will have the opportunity to prepare for the job of homemakers.

Mr. Smith concluded his address to the Future Homemakers of America with this statement:

"I take full advantage of you this evening because there is no faster nor more certain path to success in this field or a quicker method of approach than through you who will be the homemakers of tomorrow and the millions like you who in just a few short years will be homemakers. I'm taking advantage of you because, as has been said so many times, 'if you educate a boy you educate an individual—but if you educate a girl your educate a family.'

"Young ladies and advisers to the Future Homemakers of America, we have bigness in our country and we have wealth, and we have strength and we have spirit, and we have resources, all of which are the envy of all the rest of the world. But these evidences of affluence, of technical knowledge, are of no value, are of no worth, if we lose the dignity of people as individuals. We must increasingly give our attention to the kinds of people who appear in each new generation.

"I hold that it is about time for us to deliberately attempt to influence the kind of people through increased efficiency upon the part of men and women who establish and create families. I insist that motherhood and fatherhood imply much more than the conception and birth of young, at least in the human race. Involved is the production of new stock for an ever-changing civilization, and the character of this new stock will determine the future of the world.

"I'm concerned that the task of homemaking, the task of rearing children, the task of preserving the family unit, must be fortified with competencies. I'm saying that it has become so complex and so crucial that it can no longer be left to chance and can no longer be left to amateurs who will, it is hoped, in some quarters, learn by doing."

EDUCATION FOR THE OCCUPATION OF HOMEMAKING—HAS ECONOMIC MEANINGS

American businessmen value the home because homes are big business. The building of homes is big business for loan companies, architects, contractors, carpenters, lumbermen, electricians, and brick masons. The furnishing of homes is big business for furniture stores, appliance shops, and fabric counters. The keeping up of homes is big business for insurance companies, termite companies, plumbers, painters, and roofing companies. Obviously, the home is important to the economy of our nation. I understand that industry spends billions of dollars a year to create new products and most of these products are for homes and families. These products lead to new markets and keep the economy of our country moving.

Women, we are told, spend more than 80 percent of the money spent. Although the homemaker may receive no wages as such for her services, the family income can be either wasted or conserved by her. The Home Economics curriculum emphasizes the economics of the home through instruction in money management, consumer education, and how to lessen family tensions over money.

Although the homemaker may receive no wages as such, the occupation of homemaking has a monetary value in the form of "real income." Some efforts have been made to calculate the monetary equivalent of the work performed by the homemaker.

In 1966, the Chase Manhattan Bank in New York with the help of the Bureau of Labor analyzed the services of the average homemaker which are necessary for the functioning of families and placed a conservative value of a month's contribution as over $700.00 per month.

Family counselors and the courts have defined the economic value of a homemaker. In one accounting the cost to the father of providing substitute homemaking and child care for twenty years until the two children were grown was placed at $120,000.00.[1]

"George Washington University economist, John W. Kendrick, thinks the services of homemakers are worth 'plenty.' By adding in the value of the home-

[1] *The Evening Star*, Washington, D.C., July 13, 1966.

makers' output and other services (like volunteer work) usually labeled noncommercial, Kendrick raises the country's Gross National Product (GNP) by 25 percent. For 1965, this would have been an addition of 158 billion." [2]

In a study conducted by *Changing Times* on the working wife and mother, half of the respondents indicated that schools should place more emphasis on the dual role of the working wife and mother; and they readily said, "Schools are unrealistic in educating girls. * * * Most women are trained for one role or the other, but never for both. As a result their time is poorly managed." [3]

EDUCATION FOR THE OCCUPATION OF HOMEMAKING—IMPORTANT TO WOMEN IN THE WORLD OF WORK

Women working outside the home has become a way of life in America. Women are needed in the work force and the woman's paycheck is needed to supplement the family income in this day of high costs and high standards of living. This development has changed the pattern of family life and has provided more money for families to use for goods and services.

Thus instruction in Home Economics is needed more than ever. Competencies in home management and family economics help the homemaker use the resources of time, energy, and money to achieve individual and family goals. The application of the principles of management to family time schedules, marketing, meal preparation, housekeeping, child care, and family finance can make the difference in a family life of fulfillment or one of frustration. It can make the difference in a worker on the job who is efficient or one who is nervous and maladjusted.

When the mother is away from her family during the work day, the hours remaining for her family can be productive when she knows and understands human development and has a positive view of herself and her family.

Beth Peterson of the Dupont Company has stated that today's woman must be educated for two jobs—one for love and one for pay. When a woman is competent in both homemaking and in wage-earning, she can carry out both jobs without sacrifice of the other. Since the working woman is expected to assume several roles all at one time as worker, wife, mother, mate, consumer, community member, and neighbor, she needs the benefits of education in Home Economics in order to understand and use the principles of home management, consumer buying, child development, and family relations.

EDUCATION FOR THE OCCUPATION OF HOMEMAKING—BASIC CONCEPTS INCLUDED IN THE CURRICULUM

As a field of study, Home Economics is concerned with raising the level of human ideals and human endeavor through strengthening home and family living. The family continues to be the basic universal unit in society and remains the major channel through which culture and values are communicated from one generation to the other. The home continues to be the setting for the development of human beings and a major force in shaping the lives of people. The physical, emotional, and social aspects of family life as well as the managerial and aesthetic components involve knowledge and skills which comprise the structure of the Home Economics field.

Because of the nature of the field, Vocational Home Economics is both a creative and scientific study. It is a human study of people and families which has meaning in terms of human values and creative living. Home Economics is a scientific study through which the principles of the physical, biological, and social sciences are applied to individual and family living.

Instruction in Vocational Home Economics at all levels (secondary, post-secondary, and adult) is organized around the concepts and generalizations which form the structure for all of the aspects of learning related to family life. These include:

Clothing and Textiles.
Foods and Nutrition.
Home Management and Family Economics.
Housing.
Human Development and the Family.

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[2] *The Washington Post*, June 19, 1967.
[3] *Changing Times*, The Kiplinger Magazine, July 1965.

Although each of the above subject areas are as different as biology, chemistry, and physics are different, they are all related in that they are facets of family life.

The Clothing and Textiles area of Home Economics includes not only clothing instruction but also the social, psychological, economic, and creative aspects of clothing. The relation of clothing to how one feels inside, the influence of clothing on behavior, the effect of clothing on efficiency at work, the first impressions created by clothing, the values identified by clothing, and the roles revealed by clothing are basic concepts included in Home Economics instruction to help students understand the significance of clothing to individuals and families. Since wardrobe planning and buymanship as well as wardrobe maintenance are responsibilities of the homemaker, Home Economics students learn to assume responsibility for their own clothing and are prepared for the broader responsibility of clothing a family.

Since the homemaker is the family food manager and nutritionist, the Home Economics curriculum includes instruction in foods and nutrition. Students learn to apply the principles of science and management to individual and family nutrition, food marketing, and meal preparation. This instruction is adapted to contemporary living in which conservation of time is a priority item for the working wife. Home Economics students learn to be an "instant chef with convenience foods as well as how to be a food chemist in preparing foods using traditional methods.

Instruction in Home Management and Family Economics in Vocational Home Economics is included to help students manage their lives, homes, and money in changing circumstances using the process of rational decisionmaking. When a marriage takes place, it is as logical to announce this merger in the financial section of the paper as in the social section. It is hoped that each marriage is a love pact, but according to our laws, each marriage is an economic pact. Problems of money management is a concern of families. The teenage market has become big business. During the sixties it is estimated that teenagers will spend ten billion dollars for non-durable goods. The habits of money use teenagers establish today will likely carry over into adult life and influence the economy of the future and the stability and security of families. In a world of change, today's teenagers are not content with the platitudes of the past but they are impressionable to principles of management taught in Home Economics which help them make decisions based on goals, values, and the use of human and material resources to achieve them. Through immediate practical experiences provided in Home Economics classes, the students are led to understand the larger economic problems and decisions involved wherever people live in a community of interdependence.

Housing is the term used to designate another subject matter area included in Vocational Home Economics. Throughout the ages an impression of the home as a man's castle has had lasting meanings. The concept of a man's home as his castle is a place for man to leave from, to return to, a place of protection, privacy and freedom, and a source of pride called home. Through instruction in Home Economics, students develop the concept of housing as shelter for "people and things" together, not a concept of providing housing to keep up with the Joneses, not a concept of providing a house beautiful to be looked at and not used, not a concept of housing as making no difference, but a concept of housing as environment for living—housing for people—a setting for the development of human beings which influence their physical, psychological, and social growth.

Vocational Home Economics also includes instruction in Human Development and the Family, which is the field of study which helps students understand and be able to guide human development including their own development and that of their children within the family setting. The basic functions of the family are seen as:

Child rearing.
Meeting the basic needs of family members.
Producing healthy personalities.
Preparing individuals for a meaningful life in society.

Through this instruction the students develop pride in the family, pride in their families, and develop understandings as to why and how the family influences the lives and behavior of people throughout the life cycle.

THE TEAM RELATIONSHIP BETWEEN EDUCATION FOR THE OCCUPATION OF HOMEMAKING AND EDUCATION FOR EMPLOYMENT IN OTHER OCCUPATIONS INVOLVING HOME ECONOMICS KNOWLEDGE AND SKILLS

The two programs of Vocational Home Economics are education for the occupation of homemaker provided for in the Smith-Hughes and George Barden Acts and education for employment in other occupations involving Home Economics knowledge and skills provided for in the Vocational Education Act of 1963. These two programs form a "hook and eye" relationship. The subject matter areas in the homemaking program provide the basic knowledge and skills for the occupational fields. It is expected that student interest in entering an occupational field will grow out of enrollment in the Vocational Homemaking course which may be considered the foundation course for Occupational Home Economics students. The following shows this relationship:

VOCATIONAL HOME ECONOMICS

EDUCATION FOR THE OCCUPATION OF HOMEMAKING	EDUCATION FOR EMPLOYMENT IN OTHER OCCUPATIONS INVOLVING HOME ECONOMICS KNOWLEDGE AND SKILLS
Subject Matter Areas	*Occupational Fields*
Human Development and the Family	Child Development Services
Home Management and Family Economics	Home Management and Institutional Services
Foods and Nutrition	Food Services
Clothing and Textiles	Clothing and Textiles Services
Housing	Home Furnishings Services

The subject matter areas in the Vocational Homemaking program provide the basic knowledge for the occupational fields.

Changes in patterns of living are bringing about increased employment opportunities in occupations involving Home Economics knowledge and skills in the entry level jobs, technical jobs, and professional jobs.

The industrial revolution started the change of the family unit from a producing unit to a consuming unit. When industry took over the production of goods and services for homes and families, occupations developed which involved Home Economics knowledge and skills. Packaged foods in the market for the homemaker to buy involve jobs and the employment of people on a large-production basis to prepare, package, and process the packaged food.

With mothers working outside the home, there has been created a demand for child care facilities and, as child development centers are established, jobs are thus created which involve Home Economics knowledge and skills. With more women working, more meals are eaten outside the home. The majority of the Americans eat one or more meals a day away from home. The increase in eating establishments in schools, hospitals, and industries as well as commercial establishments and catering services has created countless jobs which involve Home Economics knowledge and skills.

Today's families can seldom count on the assistance of grandmothers, mothers-in-law, and maiden aunts to share the home and help in its operation either routinely or during emergencies. Therefore, the family is compelled to turn to employed help for household services.

The textile industry and the ready-to-wear market with its demand for mass-produced garments keep these industries growing with a constant supply of jobs which involve Home Economics knowledge and skills. The making of draperies, slipcovers, coverlets, and other interior design services as well as alteration services create a demand for commercial seamstresses.

The employment opportunities in occupations involving Home Economics knowledge and skills is of far-reaching proportions due to changing patterns of living. The different areas of subject matter which are included in the Vocational Homemaking program provide an appropriate base for education for employment in the many occupations which grow out of Home Econmics.

The two aspects of Vocational Home Economics complement and support each other. The combination of the two results in a complete program of Occupational Educatoin for all occupations which involve Home Economics knowledge and skills.

The limitation of funds for the occupation of homemaking strikes at the foundation of the Occupational program and thereby weakens the entire structure. Federal funds for both aspects will contribute to a strong base and a total program.

FUTURE HOMEMAKERS OF AMERICA—THE YOUTH ORGANIZATION FOR HOME ECONOMICS STUDENTS

The Home Economics Education program in the secondary schools is the foundation on which is built the national youth organization, Future Homemakers of America. Future Homemakers of America is co-sponsored on the national level by the Home Economics Branch of the U.S. Office of Education and the American Home Economics Association; on the state level, by the Home Economics Education Service of the Vocational Division of the State Department of Education; and on the local level, by the Boards of Education under the advisorship of the Home Economics teacher and the high school principal.

Although FHA is one of the youngest of the youth organizations operated through the secondary schools, it is the largest. Through the twenty-two years FHA has grown in numbers but even more significant, there has been growth in accomplishments and in dedication to the values and purposes of this organization.

The FHA emblem shows the home supported by two youthful hands symbolizing that the future homes of America rest in the hands of its youth. Because FHA'ers believe this, they seek to develop the competencies that will enable them to make the American home a force in developing healthy, capable, responsible people who can contribute to society in a changing world.

Future Homemakers of America provides opportunities for the development of creative individual and group leadership in home, school, and community activities and for working cooperatively to promote democratic principles.

Future Homemakers of America encourages the continuous growth of individual members in terms of their increasing ability to make constructive contributions to chapter activities, their own families and communities.

Future Homemakers of America offers experiences which help to prepare members for adult roles in society.

The Future Homemakers of America was founded as a unique organization—not as an image of some other youth group—not a carbon copy of what had been, but instead a national youth organization for students studying Home Economics in high schools. This group of teenagers is dedicated to preparing to be future homemakers and future leaders for better homes for a better nation.

FHA'ers are currently working on nine national projects for a four-year period 1965–1969. These projects are:

"Individuality Counts"—A project to further develop the concept of the worth and uniqueness of each person.

"Good Health—A Valuable Asset"—A project designed to help improve the physical fitness of American youth.

"Jobs, Careers, and You"—A project to help FHA'ers set goals and work toward them through personal development, occupational experiences, and career choices.

"Morals and Manners Matter"—A project to inspire the practice of consideration for others and the development of high moral ideals.

"Good Family Relations Through Communication"—A project to promote understanding among family members.

"Citizenship Challenges You"—A project to help develop a recognition of the challenges, opportunities, and responsibilities of Future Homemakers as American citizens of the future.

"Your Neighbor Near and Far"—A project to help FHA'ers understand, respect, and appreciate the heritage, customs, and beliefs of people both at home and abroad.

"Make Your Money Behave"—A project to help youth understand and practice selective spending.

"Leisure Time—Constructive Time"—A project to help FHA'ers recognize how leisure time activities can lead to vocations, help other people, and contribute to personal development.

Future Homemakers are also working eagerly on the "Natural Beauty and Conservation Project" in which Mrs. Lyndon Johnson has a great interest.

The Future Homemakers of America has meaning to its members and the FHA'ers are in strong contrast to the "Hippies" and "Beatniks" and other youth groups who are seeking meaning through empty channels.

FHA is an integral part of the Home Economics program. The weakening of the Home Economics program through the limitation of Federal funds for Vocational Home Economics will weaken this purposeful organization. An amendment to P.L. 88–210 to provide Vocational Act of 1963 funds for Vocational Homemaking will contribute to the strengthening of its purposes and accomplishments.

THE PROGRAM OF HOME ECONOMICS IN VOCATIONAL EDUCATION—DESIGNED TO SERVE MANY PURPOSES AND GROUPS

The program of Home Economics in Vocational Education has multiple purposes which have been identified as follows:

1. To improve the quality of family living and to help youth and adults develop the abilities needed for the occupation of homemaking.
2. To prepare individuals for gainful employment in occupations involving Home Economics knowledge and skills.
3. To provide pre-professional education for students who will enter colleges and universities to prepare to be professional home economists.
4. To help prepare individuals for responsible citizenship, with special emphasis on consumer responsibility.
5. To help transmit the American culture from one generation to the other and to develop heritage appreciation.

Because of the scope of the purposes and the closeness of Home Economics to the realites of living, Home Economics as a field is fitted to serve many groups for which our nation has great concern today, including secondary school students, post-secondary students, adults, the dropouts, the academically handicapped, the physically handicapped, the non-motivated, and the economically deprived.

Home Economics has a unique contribution to the improvement of the economics status of low-income groups, reduction of juvenile delinquency and school dropouts, and to help individuals become more employable through developing personal qualities and work skills required of employees.

Because of the knowledge and skills of home economists, they are being utilized in the development of Headstart Programs, OEO Projects, and Rehabilitation Programs.

Through a strengthened program of Home Economics in Vocational Education, a preventative as well as a remedial approach can be made which will help strengthen the American home and thus strengthen the nation.

CONCLUSION

Again I would like to thank you, Mr. Chairman and Members of the Committee, for the opportunity of presenting this testimony and for your thoughtful consideration of the need for liberalizing the use of the funds provided in the Vocational Education Act of 1963 to provide for education for the occupation of homemaking, the occupation which so vitally affects our national welfare.

We appreciate the support you have previously given and which you will doubtless continue to give.

Senator DOMINICK. Our next witness is Dr. Moss.

STATEMENT OF DR. JEROME MOSS, JR., PROFESSOR, INDUSTRIAL EDUCATION, AND CODIRECTOR, MINNESOTA RESEARCH COORDINATION UNIT IN OCCUPATIONAL EDUCATION, UNIVERSITY OF MINNESOTA

Dr. Moss. Thank you, Mr. Chairman. My name is Jerome Moss, Jr. I am professor of industrial education and a codirector of the Minnesota Research Coordination Unit in Occupational Education at the University of Minnesota. Currently I also happen to be serving as chairman of the Research Committee of the American Vocational Association.

May I join my colleagues in saying it is a privilege to be here today to testify specifically on title II of S. 1125.

My statement will attempt to do three things: First, to indicate the major reason why I believe title II deserves full support; second, to raise some questions about the advisability or clarity of certain aspects of title II for your further consideration; and third, to point out some staffing and research implications of title II and other associated implications.

While I am sure that different educators will receive many different wages under title II I believe an important function will be to develop programs which integrate or at least coordinate academic, vocational, and personal development subject matter in secondary schools. That ties the work of the school to the reality world of work. I suggest that these kinds of innovative programs will increase the effectiveness of the total secondary school program for all youth and not just special portions of it.

I believe, for example, that such programs will result in an improved basis for making future career decisions, a better foundation in general education for subsequent specialized vocational training at all levels and in all fields. I think it will provide greater flexibility in the options available to early school leavers, and last, but certainly not least, I think it will help develop more positive attitudes toward the formal school as an instrument of personal and economic growth.

LOWER LIMIT

Although title II, as a whole, has our enthusiastic support, there are several aspects of the title as now written which I should like to point out might deserve your consideration. First, it seems desirable to specify grade 7 as the earliest level for program development under the title. This would provide maximum flexibility for creative curriculum innovations and permit the development of articulated programs throughout the widest range of grades. The substantial dropout rate between grades 7 and 9, and this has been quoted by the Associate Commissioner of Education as high as 30 percent, certainly indicates that we should not neglect that particular grade range.

GEOGRAPHICAL DISTRIBUTION

Secondly, while it may be desirable to achieve widespread geographical distribution of innovative programs, the mechanism of State allotments as a basis for prorating funds under title II has at least one important handicap. It often secures geographical distribution of projects at the expense of supporting more promising proposals from States which have already used their full allotments. An alternative mechanism would, of course, be to permit the U.S. Commissioner of Education to determine which specific projects should be funded regardless of geographical sources of that proposal on the basis of merit.

DURATION OF PROGRAMS

Third, funds for each project are limited at the moment under the title to 3 years. It is obviously not the intent of the title to provide continuing support for operational programs. But, innovative pro-

grams are very apt to take a good deal longer than 3 years to complete, especially if they are truly innovative and especially if the new programs incorporate several grade levels. It might, therefore, be advisable to extend the time limit to a maximum of, say, 5 years and allow an additional period of 1 year for additonal planning and development. This would help insure careful planning and it would also permit a wholistic rather than a piecemeal approach to the problem of curriculum revision.

INSERVICE TRAINING

Last, and by no means least, the greater the innovation called for by the proposal, the greater the need for inservice staff education as an integral part of the project. The provisions of the bill should, therefore, make clear that teacher training is an authorized part of each project as it fits into the developmental process of projects.

I believe there are some important implications of title II for staffing that should be brought to the subcommittee's attention.

Before successful innovative pilot projects can be adopted by school systems on a large scale, and I am assuming that many will be successful, qualified staff must be made available. It will probably require the development of new programs of inservice and preservice teacher and counselor education. Certainly, proportionately greater numbers of occupational specialists, guidance specialists, and teaching coordinators will be needed than are now employed at the secondary school level. The problem of staffing seems to me to be especially acute for vocational education.

In additon to the task of providing qualified personnel to carry out programs which are involved in title II, the gap between staff needs and supply for vocational programs has been widening since the passage of the Vocational Education Act of 1963. This gap is now critical. The U.S. Office of Education, for example, reports that many classes had to be combined and that thousands of dollars worth of equipment is idle because there are not a sufficient number of qualified staff personel available. In some cases it has been necessary to employ marginally qualified personnel or to adopt what I consider a sort of disfunctional policy. The American Vocational Association study which has already been mentioned has been pointed up numerically to the size of this needs for qualified personnel.

TEACHER NEED

The U.S. Office of Education study has made a similar study, but at this point they indicated that some 124,000 teachers were employed in vocational education in 1966 and that some 213,000 will be needed by 1970. The American Vocational Association study, indeed, is conservative in relation to the U.S. Office study. Both of these estimates, incidentally, do not take into account the numbers of teachers, additional teachers, who will be needed to replace those who are presently employed, those who retire, die, or otherwise leave the profession, nor do they take into account the staff needs of economic opportunity projects. It is, therefore, very encouraging to learn that Congress has amended and extended title V of the Higher Education Act to

provide for preservice and in-service training. However, the provision of this title would appear to be inadequate to meet vocational education needs and the education profession as a whole.

One other point with respect to title V. Part C deals with the graduate fellowship programs, and unless this part can be interpreted to provide training to the doctorate level and to include the training of vocational administrators and researchers, we have not at this point adequate means for providing Federal support to alleviate this phase of the total critical staffing shortage in vocational education.

I should point out that the House bill, 8525, does provide directly for training to the doctoral level for both vocational administrators, vocational researchers and teacher educators, and also it provides funds for preservice and in-service teacher training.

Senator MORSE. But you prefer the specifics in the language in the Senate bill?

Dr. Moss. Yes. This is only part of it, though, Senator, because I think that the total amounts of money that both bills represent are certainly much less than is needed to accomplish the task they envision. Thank you, sir.

(The prepared statement of Dr. Moss, follows:)

PREPARED STATEMENT OF DR. JEROME MOSS, JR., PROFESSOR, INDUSTRIAL EDUCATION, AND CO-DIRECTOR, MINNESOTA RESEARCH COORDINATION UNIT IN OCCUPATIONAL EDUCATION, UNIVERSITY OF MINNESOTA

Mr. Chairman and members of the subcommittee, my name is Jerome Moss, Jr. I am a Professor of Industrial Education and Co-director of the Minnesota Research Coordination Unit in Occupational Education at the University of Minnesota. My major responsibilities are in research and teacher education in vocational education. Currently, I am serving as Chairman of the Research Committee of the American Vocational Association. It is a privilege to appear before this Subcommittee, in behalf of the members of the American Vocational Association, to testify on Title II—Amendments to Vocational Education Act of 1963 contained in S. 1125.

My statement will attempt to do three things: first, to indicate the major reason why I believe Title II deserves support to provide evidence that the American Vocational Association concurs in its value; second, to raise some questions about the advisability or clarity of certain aspects of the Title for your consideration; and third, to point out some staffing and research implications.

If education is to help alleviate the unfortunate situation of unfulfilled people and unfulfilled jobs, then the public school must begin to redefine its programs. Title II provides the means for making significant, desirable changes, at least at the secondary school level. It does this by encouraging the development of curriculums which integrate or correlate academic, vocational and personal development subject matter for the purpose of providing a more comprehensive, meaningful education for *all* youth.

Because of the pervasive influence of work on the psychological, political, and economic life of individuals and on society as a whole, every youth should learn about the world of work, the various work roles that must be played, their interrelationship, and the impact of productive work upon contemporary culture. Providing occupational information, in terms of educational requirements and job opportunities, can also broaden the perspective from which youth view their own potential career development, and contribute to their understanding of and respect for the work of others. Thus, it is important for all youth that occupationally oriented content be included in the secondary school curriculum.

The manner in which the school provides occupational information, however, greatly affects the degree to which students will, in fact, develop realistic perceptions and attitudes about work and occupations. More importantly, the way in which the total school program is organized and presented, specifically the degree to which occupations are used as a major focus of instruction, will influence the extent to which the total secondary school program is effective.

Post-elementary school students are beginning to develop an interest in occupations. The school can utilize their interest, and thereby improve motivation in all subject areas, by continually pointing out the occupational relevance and value of the content. Further, by coordinating the activities of actual or simulated work experiences with content presented in the classroom, (in a more verbal, abstract fashion), the school can provide students with a basis for understanding and applying the content of the classroom in a variety of realistic situations; the two types of learning experiences are mutually reinforcing. In addition, experiences in work environments will assist students in developing realistic occupational self-concepts. Consequently, all youth will benefit from some amount of occupational experience. Because of differences in learning styles, however, students vary in the proportion of first-hand and abstract experiences that is most efficient for each of them. The school program should be sufficiently flexible to accommodate individual differences and to coordinate the content of the two types of learning experiences.

It is, therefore, not only the specialized vocational skills that may be obtained at the secondary level by some students that makes innovative programs under Title II especially important. Rather, it is the opportunity to increase the effectiveness of the *total* secondary school program for *all* youth through the development of integrated, occupational oriented curriculums. Such curriculums can tie school work to the reality of the world of work and result in: (a) a better basis for making future career decisions, (b) greater flexibility in the options available to early school leavers, as well as those considering post-high school training, (c) a more effective foundation of general education for subsequent occupational preparation of all types, and (d) positive attitudes and values toward formal education as a tool for personal and economic growth.

The following resolution of the House of Delegates of the American Vocational Association was passed in December, 1966. It clearly indicates the Association's support of the purposes of Title II.

Whereas occupational destinies are shaped over a long period, beginning at birth and continuing until retirement, and

Whereas appropriate education for occupational choice, orientation for the world or work, occupational competence and advancement should be a part of the total school education of all, and

Whereas vocational and technical education for older youths and adults is often ineffective or impossible when early schooling has been inadequate or unrelated to work, and

Whereas it is no longer possible to rely wholly upon families and out-of-school agencies to provide work experience, acquaintance with the wide range of occupational opportunities, and knowledge of the requirements of occupational entry and advancement, and

Whereas transition from school to work has become increasingly difficult: Now, therefore, be it

Resolved, That the AVA join with those responsible for the elementary, secondary and post-secondary schools in developing programs of occupational education appropriate for all students and participated in by all students in elementary schools, junior and senior high schools, and post-high school institutions; and be it further

Resolved, That the AVA subscribe to the following criteria for these programs:

1. Programs in the practical arts, adapted to students, should be expanded and extended downward into the early grades.
2. All students should receive this realistic occupational information and guidance, adapted to individual needs, and provided at appropriate times in their school careers. Parents should be aided in guiding their school-age sons and daughters in making realistic occupational choices and in selecting educational programs related to their choices.
3. All professional personnel in a school system who have a relationship to occupational choice, competence and advancement should be involved in planning programs of occupational education.
4. Schools should provide supervised work experiences.
5. Schools should provide placement services when the students are ready to enter the labor market; and be it further

Resolved, That additional funds to implement this expanded and improved occupational development program be sought from local, state and national sources; that personnel be prepared to conduct the expanded programs; and that

administrative arrangement, curriculum plans and teaching aids be developed which reflect the needs and interests of young and adult students.

Although the Title as a whole deserves enthusiastic support, there are several aspects of it which might be clarified or reconsidered by the Subcommittee.

First, the minimum age or grade level at which the Title is applicable is subject to various interpretations. "Post-elementary" may mean grade seven or grade nine. Since the population base upon which state allotments are to be computed begins at fifteen, (normally the ninth or tenth grade level), that age may also be interpreted as minimum. Despite the fact that school supervised work experience programs are usually limited to youth sixteen years of age or older, it seems desirable to specify grade seven as the earliest level for program development under the Title. This would provide maximum flexibility for creative curriculum innovations and permit the development of articulated programs throughout the widest range of grades. The substantial drop-out rate between grades seven and nine, (some figures are as hight as 30%), indicates that we should not neglect that grade range.

Second, while it is desirable for stimulation and subsequent dissemination purposes to achieve a widespread geographical distribution of innovative programs, the mechanism of state allotments as a basis for prorating funds under Title II has at least one important handicap. It often secures geographical distribution of projects at the expense of supporting more promising proposals from states which have already used up their allotments. Instead of prorating funds by states, an alternative mechanism would be to permit the Commissioner of Education to evaluate all proposals on the basis of their merit and to support those that are judged superior, regardless of geographical source. Dissemination funds could then be used to insure that all interested educators throughout the country were acquainted with successful programs.

Third, funds for each project are limited to three years. It is obviously not the intent of the Title to provide continuing support for operational programs. But to (a) crystallize preliminary plans, (b) mobilize and organize resources, (c) begin to develop appropriate instructional materials and techniques, (d) establish the program, (e) continue to develop and revise plans, materials and techniques, (f) operate the program long enough to obtain meaningful outcomes, and (g) conduct a realistic "pay-off" evaluation, is very apt to take a good deal longer than three years, especially if the new program is truly innovative and incorporates several grade levels. It might be advisable to extend the time limit to a maximum of at least five years, and to allow an additional period of at least one year for the initial planning and development phases, in order to insure careful planning and to permit wholistic rather than piecemeal approaches to the problems of curriculum revision. The $30 million initially authorized to be appropriated appears adequate to support the early stages of development, but will probable have to be increased in the future as projects reach the program operation stage.

Fourth, the Title recognizes the need to coordinate the programs it generates with those administered by other departments and agencies at the federal and at the local (grantee) levels. While the bill itself may not be the appropriate place to deal with the question, there is also a problem of properly coordinating the implementation of the Title within the Office of Education and of providing adequate means by which the educational community can influence policy. The potential for integrating academic and vocational education experiences under the Title indicates that USOE bureaus concerned with elementary and secondary program operation and with vocational education programs be involved in the policy formulation and in the proposal approval processes. The comparable divisions within the Bureau of Research should also be involved in those processes, since research (e.g. evaluation), and dissemination are essential components of the projects to be conducted. Unless the educational community is also adequately utilized in the formulation of policy and in proposal review and selection procedures, there is real danger of the Office assuming too great initiative in designing its own mission-oriented programs and policies instead of striving to be the instrument through which the educational community can exercise its creativity and ingenuity. Consequently, it is hoped that the Commissioner of Education will make proper use of all of the above mentioned groups in developing guidelines and requirements for proposals, and in reviewing and selecting projects for funding.

Last, and by no means least, the greater the innovation called for by a proposal, the greater the need for in-service staff education as an integral part of the project. The school faculty may well need to be equipped with new sets of skills and attitudes before and during the time they are developing their parts of the program and while they are carrying it out. The provisions of the bill should, therefore, make clear that this training can be an authorized part of each project.

There are some important implications of Title II for staffing and for research which should be brought to the Subcommittee's attention for future consideration.

Before successful innovative pilot projects can be adopted by school systems on a large scale, qualified staff must be made available. It will probably require the development of new programs of in-service and pre-service teacher and counselor education. For example, the operation of occupationally oriented secondary school programs seems to call for staff to act as members of instructional teams composed of "academic" teachers, occupational specialist, guidance specialist, and teaching aids. All teachers and counselors should then be equipped with much broader, more realistic perceptions of the world of work and its relation to their specialties than they now typically possess. They will need to acquire the attitudes and techniques necessary to perform effectively as team members. They must all be grounded in the fundamentals of vocational guidance and the uses of educational technology, and be adept in the development of instructional materials so that learning experiences can be properly planned for individual students. All team members must learn how to coordinate their work with the efforts of supporting community agencies. Certainly, proportionately greater numbers of occupational and guidance specialists will be needed than are now employed in the schools; larger numbers of teacher-coordinators to assist team members in supervising the off-campus experiences of students will also be required. In order to develop and operate suitable in-service and pre-service staff education programs, institutions of higher learning will need federal support. Further, the teachers now in the field who will be expected to return to colleges and universities for retooling their skills will need financial assistance.

The problem of staffing is especially acute for vocational education. In addition to the task of providing qualified personnel to carry out programs which evolve from Title II, the gap between staff needs and supply for vocational programs has been widening ever since the passage of the Vocational Education Act of 1963. The gap is now critical. As the result of rapid growth in secondary school enrollments, the creation of new and enlarged systems of post-secondary area vocational-technical schools and community colleges, and the staffing requirements of M.D.T. and O.E.O. programs, the supply of trained personnel has not kept up with the demand. The USOE reports that many classes have had to be combined, and that thousands of dollars worth of equipment is idle because there is not a sufficient number of qualified vocational-technical teachers.[1] In some cases, it has been necessary to employ unqualified personnel or to adopt a disfunctional "rob Peter to pay Paul" policy. The USOE[2] and the American Vocational Association[3] have each attempted to assess the number of vocational-technical teachers that will be needed by 1970. The more conservative estimate was made by the 1967 AVA study. Based upon a survey of State Directors of vocational education programs, the study reported that approximately 37,000 additional teachers would be needed by 1970. This estimate does *not* take into account the number that will be required to replace teachers who die, retire, or leave the profession. The State Directors also estimated that federal support in the amount of $24–30 million would be needed yearly to provide the necessary teacher training.

The following resolution, passed in December, 1966 by the American Vocational Association House of Delegates, documents the membership's awareness of the great need for additional support for staff development:

Whereas there is a critical shortage of vocational, technical, and practical arts teachers, and

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[1] Division of Adult and Vocational Research, Bureau of Research, U.S. Department of Health, Education, and Welfare, "Backup Information on Vocational, Technical, and Adult Education Research", November 16, 1966 (mimeographed).

[2] U.S. Office of Education, Division of Vocational and Technical Education, "What's Ahead for Vocational Education", Program Planning, Development, Budgeting Series No. 1, Washington, D.C.: The Division, 1967, 16 pages.

[3] "Estimates Concerning Vocational-Technical Education", A.V.A. Study No. 1, Washington, D.C.: American Vocational Association, 1967, 6 pages.

Whereas there is an urgent need for vocational teacher aides, technicians, researchers, coordinators, supervisors, teacher educators, administrators, and other specialists, and

Whereas a major portion of the current and future labor force will require training and retraining in occupations served through vocational education, and

Whereas the national security and economy are vitally related to the trained manpower made available by these teaching, supervisory, administrative and specialized personnel throughout the public schools, and other agencies: Now, therefore, be it

Resolved, That the AVA urge the 90th Congress to enact amendments to the Voc. Ed. Act of 1963 (P.L. 88–210) and to support other legislation which would authorize funds for a program of scholarships, fellowships and educational stipends, to programs of internship and inservice training of vocational education personnel; and that such scholarships, fellowships, stipends and internships be made available at graduate and undergraduate levels and to preservice and inservice teachers, teacher aides and assistants; coordinators, supervisors, and administrators; consultants and specialists in research, curriculum, evaluation, facilities and equipment, and personnel engaged in other aspects of vocational, technical and practical arts education.

It was, therefore, most encouraging to learn that Congress has amended and extended Title V of the Higher Education Act of 1965 to include the training of vocational education personnel, and thus provide some possible relief from our present severe teacher shortage problem. However, Part D of that Act, which will be most directly applicable to the in-service and pre-service needs of vocational teachers, authorizes a maximum appropriation of $90 million for all educational fields. This may be less than the total amount needed, considering the estimated $30 million required for vocational personnel.

Unless Part C of Title V of the Higher Education Act can be interpreted as applicable to administrators and researchers, and unless fellowships leading the doctorate can be awarded, there still does not appear to be any adequate means for alleviating the present critical shortage of highly trained vocational administrators and researchers. The National Defense Education Act does not provide fellowships leading to the doctorate for secondary or post-secondary school administrators or researchers. Title IV of the Elementary and Secondary Education Act is devoted to preparing educational researchers, but the appropriations have been woefully small. In order to give leadership to vocational programs and to help design, improve and evaluate them, it is essential to build upon our present inadequate sized core of administrators and researchers. They perform crucial roles in carrying out the mission of vocational education. H.R. 8525, a bill to amend the Vocational Education Act of 1963, does provide directly for the preparation of vocational administrators, researchers, and teacher educators, and also authorizes adequate support for in-service and pre-service teacher training.

Finally, the implications of Title II-Amendments to Vocational Education Act of 1963 for research in vocational education should not go unmentioned. By encouraging and supporting important curriculum development activities, the Title serves to supplement the small amount of funds available under Section 4 (c) of the Vocational Education Act of 1963 and permits the Bureau of Research to place greater emphasis upon research activities. At the same time, the Title implies the need for some of that research to focus upon the procedures for curriculum development and evaluation, and upon improving the processes of teacher education and dissemination.

Thank you, Mr. Chairman and members of the Subcommittee, for permitting me to appear here today and to place this statement in the record.

Senator MORSE. I want to say that your paper wraps up a package here in very good shape, and I want to apologize to Miss Stovall. I was called on the floor. During the procedures, an emergency developed in connection with the foreign aid bill. Ordinarily I do not agree with time limitations, but they wanted to be sure that I was of the same opinion still. I assured them I was.

Miss STOVALL. I would appreciate very much your consideration to the request for an amendment to provide for funds for the occupation of homemaking.

Senator MORSE. I will study and read very carefully your statement, and I am sure the others on the subcommittee will, too.

Miss STOVALL. Thank you.

DURATION OF PROGRAM

Senator MORSE. I want to say to Dr. Moss, I do not think there is any chance of our getting any provision in the bill with respect to the sound case that you make for it, for a 5-year period. In my judgment, the Senate or the House is not in any mood in this period of political fluidity, I will describe it, to commit either branch to any 5-year program for anything. In fact, at the present time rarely are you able to get legislation that will make a commitment beyond a year.

There are many, many reasons for that, as I think you recognize, that reflect on what is going on in the Congress, but you are going to find, I think, that in most instances the maximum time that you can get coverage in a bill in our field or any other is 3 years. I thought I ought to say that. That does not mean that if you have a case for 5 years we should not recommend it and see what happens, but on the other hand, I do not like to sit up here with witnesses before me and have them make a proposal that they know on its merits is a very good proposal, and then not issue a word of warning, as I am now. I have followed you very carefully. I think probably when I get through analyzing your reasons I will agree with you that 5 years would be desirable, but you cannot get it, I do not think.

Now, may I say to this panel that as far as I am concerned, you are not through with your testimony as far as helping this subcommittee is concerned. I think you ought to, and I am going to ask counsel to elicit it for me. I think we are going to have to have some supplemental material as we go along to meet the problems that develop in the committee in the executive session, and so, Mr. Lee, I want you to keep in touch with Mr. Johnson and Mr. Burkett, and to ask the various members of this panel to supply us with supplemental material. There are some requests which we have already assigned to you.

AUTHORIZATION RECOMMENDATIONS

Mr. BURKETT. We will be very happy to.

Senator MORSE. It sems to me, and this is what I want you to shoot at now, it seems to me, as I listen to you here this afternoon, we ought to give special attention first to the dollar item, that the $30 million that is being proposed is so inadequate compared with the material that you have put in your paper, Mr. Burkett, that we ought to get buttressed whatever additional information we need with the data that you have put in there, a figure that we ought to ask for, we have got to ask for a figure, and you gentlemen and Miss Stovall, there is nowhere in the testimony this afternoon that you have given us a recommendation for a ceiling figure that we ought to shoot for. If you can, you do not want to do it publicly, if you can advise counsel as to what you think we can make a case for, let us do it that way. We have got to have that.

VOCATIONAL WORK STUDY

Then the work study program, I think we ought to supply the information that is needed to buttress or those of us that share this point of view, that you do not want the work study program with the vocational training program in any way disrupted. This means that the neighborhood program of the OEO can be considered independent of it because, I think, I cannot prove it yet, but I think we have already got enough in the record to create a presumption in my favor. I think we are talking about in the broad categories two different categories of people, and what I am afraid of is that if you phase out the vocational work study program you are going to end up in the vocational field with no help to a group of students that we will never find in the neighborhood study program. If I am right, you had better get some more material in this record in regard to that that gives Senator Yarborough and me the evidence for it, because he has indicated also that he is concerned about this, and I think that is very important. Then I think when we come to the separate categories of the program that you need to give us what you think are the rock-bottom minimum figures for each one of the categories. Then I am concerned from what I have heard you say about the need of supplying you with the trained teacher personnel. I think the record needs to be strengthened in that phase.

Mr. Lee, do you have any other instructions that you wanted me to give them for any further information?

MATCHING REQUIREMENTS

Counsel points out that I have overlooked something that I have been thinking about. We have got to get an equalization or matching between the vocational program and the other educational programs. There is at present some disparity. Am I correct in saying that you think there ought to be an equalization of matching, is that correct?

Dr. LOOMIS. Yes.

Mr. BURKETT. Yes.

Mr. JOHNSON. Yes, sir.

Senator MORSE. And then the individual funds, I raise the question to you, Dr. Loomis, are you going to lift to $45, where do we go? Give us a memorandum or something, what you think it should be.

Counsel tells me that we have already instructed the Office of Education to prepare for the subcommittee a parallel column table that shows each one of the categories, and counsel, tell them to add to it also an analysis of the disparity in regard to the matching fund requirements of the different programs.

(The table referred to may be found on p. 1940.)

In essence, what my position is going to be is that I want us to stop looking upon vocational education as a foster child in the educational family. I want vocational education to be recognized as if it really was born of the same parents and sometimes I have doubt that they really know where the parentage of vocational education comes from. That's a pretty broad allegorical argument, but not so bad when you relate it to what the attitudes have been about vocational education. Maybe

it would be better for me to slip over into another allegory and suggest that they better recognize that vocational education long ago became of age, but they failed to recognize its maturity.

I think we have a job to bolster the case for vocational education in this country. I know it is easy to jump at this general conclusion, but I am satisfied the cause and effect is there. You cannot look at the internal domestic problems of this country and escape the conclusion that the lack of qualification for employment is one of the things that causes untrained people to take the position, well, what did we have to lose? What do we have to lose by asocial conduct? And, at least, it is possible for extremists to make them easy victims into believing that maybe an activist program will get more results than if they take the slower process that we are talking about here this afternoon. So I think we have just to flood the record with the objectives and evidence that will make it possible to make the case and probably stir the Bureau of the Budget into a different line of recommendation in regard to funding.

OE ORGANIZATIONAL STRUCTURE

Counsel suggests that I ask the question, "In your view, is the present organizational structure in OEA adequate for your vocational education needs? Dr. Johnson, Mr. Burkett?

Mr. JOHNSON. I believe I am going to ask our executive director, if he will, to respond to this question.

Mr. BURKETT. I think there is perhaps a lack of visibility of vocational education in the Department of Health, Education, and Welfare, Office of Education. We need to look at the history of vocational education since the beginning in 1917 when they established the Federal board which was—you could see vocational education in the Federal Government as a very strong and potent force, and if you look at the history of vocational education and its apparent importance as far as the Office of Education is concerned, we can see a gradual decline in the importance of vocational education and its visibility within the structure of the Office of Education. I believe that at the present time we ought to take a very careful look at this. I think it is very important at the moment to do so.

Senator MORSE. I want to say, Mr. Burkett, that if you could supplement the record by way of a memorandum that gives us a broader cross-section of data in some other States such as Dr. Loomis has presented for the one State, it would be very helpful to me and to the committee. I think any supporting evidence, the Oregon picture, as Dr. Loomis presented, would be very helpful because I will use this, but as chairman of this committee, coming from Oregon, I am limited to this data, they are going to say, well, Senator Morse is certainly making a great plea for his State. Now, you have got this excellent evidence.

Mr. BURKETT. Senator Morse——

Senator MORSE. You certainly must have in the files of your organization plenty of exhibits very similar to the data that Dr. Loomis has given us. Give me some more covering other States so I can put out a composite exhibit showing these relationships in other States.

Mr. BURKETT. I have a report from each of the State directors of vocational education upon which the summary was made, and I will be glad to furnish that for the record.

Senator MORSE. I am sorry I took so much time. Senator Yarborough.

Senator YARBOROUGH. Mr. Chairman, thank you. While I had to be away, I will just take 1 minute. I want to congratulate Dr. Moss on that paragraph where he, in such beautiful and forceful language, explains the reason—while he does not take time to explain—but enumerates some of the reasons for his conclusion that every youth should learn the world of work, and I cannot agree with you better on what it means to our society and our civilization. Miss Stovall, I have read through your statement while we were waiting here, and congratulate you on this fine statement.

We will go off the record a minute here.

(Discussion off the record.)

Senator MORSE. We will get back on the record. I want to thank you all very much for your testimony. I think some of these things, Mr. Secretary, ought to be digested out into a bulletin to be put out by your group because these papers are worthy of publication. Thank you very much.

Mr. JOHNSON. Mr. Chairman, on behalf of all the members of the panel, thank you for the opportunity to appear before the subcommittee.

(The following correspondence on the points referred to was subsequently received:)

AMERICAN VOCATIONAL ASSOCIATION, INC.,
Washington, D.C., September 11, 1967.

Senator WAYNE MORSE,
U.S. Senate,
Washington, D.C.

DEAR SENATOR MORSE: This will furnish additional information concerning the Vocation Education Work-Study Program. We have polled the states and of the forty-six states responding plus the District of Columbia and Guam (not including Delaware, Iowa, Kansas and West Virginia) 2,281 programs are reported as being operated in 1,224 counties during FY 1967. The forty-six states plus the District of Columbia and Guam reported that 1,428 counties have no work-study programs under provisions of the Vocational Education Act of 1963.

For Fiscal Year 1967, forty-three states and the District of Columbia and Guam (not including Delaware, Georgia, Iowa, Kansas, Montana, Rhode Island and West Virginia) responded that an estimated 43,933 students would be enrolled in the work-study program during the regular school term and 14,608 during the summer session.

If identification of counties operating work-study programs is needed, we can do so for all states with the exception of Hawaii, Maine, Michigan, Minnesota, Montana, Ohio and South Dakota.

We trust this information will be helpful.

Sincerely yours,

LOWELL A. BURKETT, *Exectuive Director.*

AMERICAN VOCATIONAL ASSOCIATION, INC.,
Washington, D.C., September 13, 1967.

Senator WAYNE MORSE,
U.S. Senate
Washington, D.C.

DEAR SENATOR MORSE: At the time Dr. Wm. G. Loomis, State Director of Vocational Education in the State of Oregon testified before your Committee on amendments to the Vocational Education Act of 1963, he pointed out the need for raising the age limit and earnings per month for post secondary students involved in the work-study program. Enclosed herewith is a statement he sent me giving some justification for these changes in the Act. I am sending this to you so you might consider the possibility of having this included in the Hearings on the bill.

If I can be of further help to you in providing information, please let me know.
With best wishes, I am
Sincerely yours,

LOWELL A. BURKETT, *Executive Director.*

Enclosure.

MEMORANDUM

To: Dr. William G. Loomis.
From: Kirby E. Brumfield, Re: Reasons for Raising Age Limit and Earnings Per Month for Community College Vocational Students, September 5, 1967.

Over the past three years, community college personnel have indicated that the work-study program for community college vocationally oriented students would be more realistic if the age limit and the earnings per month could be raised.

A recent interview with community college personnel presently involved in work-study; namely, Arnie Heuchert, Director Vocational Technical Education, Mt. Hood Community College; Bill Cox, Dean of Administration, Lane Community College; Paul Wilmeth, Director, Salem Technical Vocational Community College and Don Ridener, Director Financial Aid & Housing, Treasure Valley Community College, strongly recommended the following:

A. Increase monthly earnings as follows:
1. Reasonable commuting distance from $45 to $60 per month.
2. Not reasonable commuting distance from $60 to $75 per month.

Reasons:
(*a*) The majority of community college students are not living at home and need more funds.
(*b*) Community college expenses are greater than that of secondary students.
(*c*) Many Community College students are heads of family and require more money.
(*d*) Cost of living has increased. Books also cost more.

Remove age ceiling:
1. A large share of eligible community college students are deprived of work-study funds because of the 20-year restriction.
(*a*) Percent of vocational students more than 20 years old:
Mt. Hood Community College, 5 percent.
Lane Community College, 70 percent.
Salem Technical Vocational Community College, 40 percent.
Treasure Valley Community College, 30 percent.
2. The 20-year limit is discriminatory.
3. Many in this age group lack work experience. Work-study provides necessary work opportunity.

AMERICAN VOCATIONAL ASSOCIATION, INC.,
Washington, D.C., September 11, 1967.

Hon. WAYNE MORSE,
U.S. Senate,
Senate Office Building,
Washington, D.C.

DEAR SENATOR MORSE: At the recent meeting of the Mid-Western Governor's Conference, two resolutions were adopted concerning vocational education. Copies of these resolutions are attached.

I believe that you will be interested in the content of these resolutions; and if possible, I hope you will include them in the record of your Subcommittee's hearings on amendments to the Vocational Education Act of 1963.

Thank you very much.
Sincerely yours,

LOWELL A. BURKETT, *Executive Director.*

RESOLUTION XVII

COORDINATION OF PROGRAMS FOR THE DEVELOPMENT OF HUMAN RESOURCES THROUGH VOCATIONAL AND TECHNICAL EDUCATION

Whereas, there is a proliferation of programs pointed at the development of human resources financed by the federal government, many of which bypass the states with the administrative control of these programs assigned to a variety of federal departments and bureaus, and

Whereas, there is a proliferation of state and local agencies administering programs in the area of the development of human resources: Now, therefore, be it

Resolved, That the Midwestern Governors' Conference take steps through their congressional delegations to encourage and strengthen coordination of all federal programs in the area of manpower and human resources development in a concentrated effort to ensure effective coordination of all such programs at the state level.

RESOLUTION XVIII

RESPONSIBILITY OF PUBLIC EDUCATION FOR THE WORLD OF WORK

Whereas educators of the Midwest have presented to the Midwestern Governors a provocative report on the relationships between educational opportunity and employment potential revealing a need for re-direction of education programs, particularly in vocational fields: Now, therefore, be it

Resolved by the Midwestern Governors' Conference, That the public education agencies administered by state and local governments be directed to give more emphasis to the preparation of youth and adults for entrance into and advancement in employment; and be it further

Resolved, That particular attention be given to the needs of disadvantaged youth and adults including a concern for their physical, mental, social and vocational development; and be it further

Resolved, That the educational program be restructured so as to prepare individuals for entrance into a job and for opportunities for continuing education.

AMERICAN VOCATIONAL ASSOCIATION, INC.,
Washington, D.C., August 21, 1967.

Hon. WAYNE MORSE,
Chairman, Subcommittee on Education, Senate Committee on Labor and Public Welfare, Washington, D.C.

DEAR SENATOR MORSE: Pursuant to your request to furnish supplemental information concerning the Vocational Education Work-Study Program and the Neighborhood Youth Corps In-School Program, we are providing the following information.

The Neighborhood Youth Corps program is funded 90% by the Federal Government with 10% matching in cash or in kind while the Vocational Education Work-Study Program is funded 75% by the Federal Government with the state and/or local governments matching 25%. No provision is made for in kind matching under the Vocational Work-Study Program.

It is our earnest plea that programs funded by the Federal Government be consistent in matching in order that students will not drop out of one program and enroll in another because of higher benefits received. While we have no suggestion as to the exact amount a Vocational Work-Study enrollee should receive, we do believe that he should be allowed to work a comparable number of hours, with comparable hourly pay, as in other federally supported programs. We also believe tha the age limit for Vocational Education Work-Study enrollees should be raised in order to be consistent with age limitations in other federally supported programs.

We wish to emphasis that students under the Vocational Education Work-Study Program have already made an occupational choice and are placed on jobs which have a direct relationship to their training whenever possible.

According to information submitted by the Department of Health, Education, and Welfare before the Subcommittee of the Committee on Appropriations, House of Representatives, 90th Congress, Page 424, Part 3, of the Hearings, the Work-Study Program under the provisions of the Vocation Education Act of 1963 compares very favorably with the Neighborhood Youth Corps In-School Program.

Program accomplishments

In fiscal year 1965, the first time Federal funds were authorized for Work-Study, 18,563 students participated in the program. Total expenditures of $2,829,497 were reported, of which $29,703 were state and local funds.

In fiscal year 1966, the first full year of program operation, 68,386 students participated in Work-Study programs. Of this number 25,000 were enrolled in summer programs. Total expenditures of $20,874,000 were reported in fiscal year 1966, of which $528,594 were state and local funds.

For fiscal year 1967 an appropriation of $10 million was authorized to provide 75% Federal support for the program. An estimated 35,000 students will be supported with this appropriation together with state and local funding to provide the required 25% matching of Federal funds.

Cost experience

Work-Study programs under the Vocational Education Act of 1963 have averaged $305 per student for both school and summer employment with 97% of the available funds accruing to the students.

Enrollment by programs

	Vocational education work study	Neighborhood Youth Corps in-school program
1965 enrollees	18,563	
1966 enrollees	68,386	220,000
1967 enrollees	35,000	188,000

Comparison of vocational education work-study programs and Neighborhood Youth Corps in-school program, average cost per enrollees, fiscal year 1966

	Vocational education work-study	Neighborhood Youth Corps in-school [1]
A. Average earnings per enrollee	[2] $297	[3] $538
B. Average administrative cost per enrollee	[4] 8	[5] 29
C. Supervision		145
D. Program costs (transportation, work tools)	0	10
E. Total cost per enrollee	305	722
F. Federal share	297	650
G. State and local share [6]	8	72

[1] Information furnished by the Department of Labor, Budget Office.
[2] Based on the total amount of student earnings reported by the States divided by the total number of enrollees.
[3] Based on wages of $1.25 per hour times 9 percent (fringe benefits) times 11 hours times 36 weeks.
[4] Includes B and C and is for State supervision only. The act specifies that not to exceed 1 percent of the States allotment or $10,000, whichever is greater, may be expended for the administration of State plan for the work-study program.
[5] Includes salaries for project director and clerical staff, rent, etc.
[6] The 25-percent matching requirement was not effective until fiscal year 1967.

Source: P. 424, pt. 3, Hearings, Subcommittee of the Committee on Appropriations, House of Representatives, 90th Cong., 1st sess., Department of Health, Education, and Welfare.

We are, at this time, attempting to get a provisional reporting from the states concerning the Vocational Education Work-Study program for fiscal year 1967, including a breakdown by counties in which the program was conducted. As soon as this information is available, it will be forwarded to you.

Thank you for your interest and support of this vitally needed program.

Sincerely,

LOWELL A. BURKETT,
Executive Director.

AMERICAN VOCATIONAL ASSOCIATION, INC.,
Washington, D.C., August 21, 1967.

HON. WAYNE MORSE,
Chairman, Subcommittee on Education, Committee on Labor and Public Welfare, U.S. Senate, Washington, D.C.

DEAR SENATE MORSE: In accordance with your request to furnish information concerning placement of vocational education students, the following information is furnished. This data is provisional and was furnished by the Bureau of

Adult, Vocational, and Library Programs, Division of Vocational and Technical Education, U.S. Office of Education.

Despite the general lack of National data, and a system of reporting data generously, the U.S. Office of Education did request a follow-up data on students enrolled in cooperative and preparatory programs in vocational and technical education for fiscal year 1966. The National sample consisted of 598,535 students. The status of the students was determined to be as follows:

	Number	Percent
Total completed requirements	598,535	100.0
Not available for placement	217,489	36.3
Available for placement	381,046	63.7
Not available for placement	217,489	100.0
Entered Armed Forces	45,175	20.8
Continued full-time school	139,846	64.3
Other reasons	32,468	14.9
Available for placement	381,046	100.0
Placed in field of training	219,219	57.6
Placed in related field	54,619	14.3
Placed in nonrelated field	42,017	11.0
Employed part time	14,981	3.9
Unemployed	13,642	3.6
Status unknown	36,568	9.6

Of those students not available for placement, it is noted that 85.1 per cent either entered the armed forces or continued in school. Of the total available for placement, 71.9 per cent were placed in the specific occupation for which they completed training. By definition, the related field was identified as an "occupation in which successful entry and performance are dependent on skills and/or competencies learned in the Vocational Education Instructional Program concerned."

We are enclosing summary information from a ten-year follow-up study conducted by the American Institutes of Research, which we believe will be of use and value to the Committee. Enclosed also is a publication entitled "Graduate Follow-Up 1965" published by the Connecticut State Department of Education, Division of Vocational Education.

We trust this information will be helpful to the Committee.

Sincerely yours,

LOWELL A. BURKETT,
Executive Director.

TRADE AND INDUSTRIAL STUDENTS, A NATIONAL SAMPLE[1]

The study by the American Institutes for Research was based upon a follow-up of 10,000 students, selected randomly, from the graduating classes of 1953, 1958, and 1962, in 100 high schools representative of the nation as a whole. The following data has been extracted from the report because it represents a departure from the usual study of vocational students, and because it is focused upon topics in the realm of "academic versus vocational graduates," supported by research data instead of unsupported opinion. The following are direct quotations from selected parts of the report.

1. When education of the whole person is defined in terms of conversational interests, leisure activities, and affiliation with community organizations, there is no evidence that suggests vocational graduates have been less wholly educated than academic graduates.

2. A comparison of the two types of graduates who have had no college education reveals no significant difference in degree of organizational affiliation. Affiliation with individual organizations also fails to be significantly different.

3. A comparison of the two types of graduates who had no college indicates no difference in range of leisure activities. There is also little difference in individual types of leisure activities between the two types of graduates.

[1] Max U. Eninger, *The Process and Product of T & I High School Level Vocational Education in the United States* (Abstract). Pittsburgh, Pennsylvania: American Institutes for Research, September 1965.

4. A comparison of the two types of graduates who had no college education indicates no significant difference in terms of conversational interests.

5. Of those who reported post-high school, non-college level education, there is no significant difference between academic and vocational graduates, in terms of class hours of such education accumulated.

6. Academic graduates who attended college accumulated substantially more class hours of college education than vocational graduates.

7. As expected, a much greater percentage of academic graduates report college-level education than vocational graduates. The reverse is the case for post-high school trade-related education.

8. When graduates with no college education are compared, the vocational graduates have higher present earnings after two and six years out of school than do the academic graduates, but the latter catch up in earnings after eleven years out of school.

9. When graduates without college education are compared, there is no significant difference in first-job starting hourly earnings between academic and vocational graduates.

10. There is no significant difference in reported job satisfaction between academic and vocational course graduates.

11. There is no significant difference in number of full-time jobs held between academic and vocational graduates.

12. Vocational graduates have significantly greater employment stability than academic graduates.

13. When equated for college education, the vocational graduates have significantly greater employment security than academic graduates, within the period covered by the survey.

14. There is no significant difference between academic and vocational graduates in over-all attitude toward former high schools.

15. An analysis of training needs by trades makes clear that training needs vary by trade. For example, 77 percent of machinists report the need for additional training in mathematics; whereas. only 25 percent of the welders report such a need. The data indicate why one can't make blanket statements about the training needs of all T&I vocational graduates.

16. Academic graduates have a substantially different pattern of course selection influences than do vocational graduates. Parents and counselors seem to have been a much greater influence in those who selected an academic course than those who selected a vocational course.

CONNECTICUT STATE DEPARTMENT OF EDUCATION

Division of Vocational Education

Follow-up Of 1965 Graduates

1989

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EDUCATION LEGISLATION, 1967 1991

1992 EDUCATION LEGISLATION, 1967

FOREWORD

This year's Graduate Follow-Up Report has been expanded to show not only the placement data for Trade and Industrial graduates, but also to provide a more complete picture of graduate placement for other vocational programs administered by the Division of Vocational Education.

As a result, the 1965 report provides a breakdown of placement data by courses and by training institutions for each of the vocational programs having graduates in 1965. These areas include Distributive Education, Technical Institutes and Vocational Agriculture.

Present plans call for continued expansion of this report to include all new vocational programs as they develop. It is hoped that, in due time, we may be able to provide every vocational educator in the State with a complete report and an analysis of what becomes of the graduates of all vocational courses.

This is the first year that data processing techniques have been used to compile the Graduate Follow-Up Report. The Research Coordinating Unit has worked diligently to adapt reporting procedures for data processing and have already planned several further refinements for next year's report.

We hope that the information contained in this booklet will be of continued assistance in assessing the value of vocational programs.

Joseph F. Murphy
Director
Division of Vocational Education

ACKNOWLEDGEMENTS

This report represents the culmination of the efforts of teachers, counselors, and administrators in forty-eight schools and institutes which reported vocational graduates last year. These individuals deserve much credit for the many hours they spent attempting to reach the 2,736 graduates reported herein.

Our sincere appreciation is extended to Dr. Maurice Ross, Chief of the Bureau of Research, Statistics and Finance and to Mr. Herbert Hill of his staff who arranged for the key-punching of data cards. Special thanks is due Mr. Evan Confrey for his invaluable assistance in the programming and computer phases of the study.

We would like to thank Dr. Herbert Righthand and Mr. Errol J. Terrell for lending us helpful advice based on their experience with past follow-up studies.

Lastly, our thanks goes out to the clerks, typists, and all others who assisted in any way in the preparation of this report.

The Research Coordinating Unit

Robert E. Bennett

Philip T. Masley

Richard C. Wilson

EDUCATION LEGISLATION, 1967

1993

INTRODUCTION

	1964	1965
Total Number of Courses	188	195
Total Number of Graduates	2425	2736
Continued Training - Full-time School	384	346
Percent Continued Training	15.8	12.6
Entered Armed Service	233	279
Percent Entered Armed Service	9.6	10.2
Other	52	66
Available for Employment	1756	2045
Number Employed in Occupation for Which Trained	1490	1732
Percent	85	85
Mean Hourly Wage	1.93	1.96
Employed in Occupation Not Related to Training	189	228
Unemployed	35	19
Percent Unemployed	1.6	1.2
Unaccounted For	42	50

The 2736 vocational graduates reported in 1965 completed programs in Distributive Education, Vocational Agriculture, and Vocational-Technical courses on the secondary school level and Technical Institute courses on the post-secondary level. All of these programs are supervised by the Division of Vocational Education, Connecticut State Department of Education.

Eighty-five percent of these graduates were employed in occupations in which they used the specialized training gained in their vocational courses. This is the same placement percentage as reported last year for the 1964 graduates.

The most significant difference appears in the figures indicating those graduates who continued full-time schooling. Despite an increase of 311 in the total number of graduates, there was a decrease of 38 or 3.2% of the total continuing their education. This might be attributed to the increased military activity during the year and may be partially reflected in the .6% increase in graduates entering military service.

Another noticeable difference was the decrease in the unemployment rate from a very low 1.6% in 1964 to a lower 1.2% in 1965. We can attribute this to the fact that the 1965 graduates entered a labor market in which unemployment was at its lowest point in several years and in which employment opportunities for skilled workers were quite abundant.

The 1732 graduates who were employed in their field of training will earn a gross income of $7,061,918.

Richard C. Wilson
Chief Investigator

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Placement Data For Division Programs

- Distributive Education
- Technical Institutes
- Vocational Agriculture
- Vocational Technical Schools

DIVISION PROGRAMS Placement Data	NUMBER OF COURSES	TOTAL NUMBER OF GRADUATES CLASS OF 1965	CONTINUED TRAINING IN FULL-TIME SCHOOL	ENTERED ARMED SERVICE	OTHER	AVAILABLE FOR EMPLOYMENT (Col. 2 minus 3, 4, and 5) (Col. 7 plus 10 to 12)	EMPLOYED IN OCCUPATION FOR WHICH TRAINED OR IN RELATED OCCUPATION			EMPLOYED IN OCCUPATION NOT RELATED TO TRADE	UNEMPLOYED	UNACCOUNTED FOR
							NUMBER	PERCENT	MEAN HOURLY WAGE			
(1)	(1a)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
DISTRIBUTIVE EDUCATION												
(Male)		255	53	42	8	152	108	71	1.53	33	8	3
(Female)		191	28	0	16	147	109	73	1.53	32	3	3
TOTAL -	16	446	81	42	24	299	217	73	1.53	65	11	6
TECHNICAL INSTITUTES												
(Male)		226	28	20	0	178	154	86	2.75*	6	2	16
(Female)		5	0	0	0	5	5	100	2.75*	0	0	0
TOTAL -	16	231	28	20	0	183	159	87	2.75*	6	2	16
VOCATIONAL AGRICULTURE												
(Male)		121	53	7	0	61	46	76	1.61	15	0	0
(Female)		3	1	0	1	1	0	0	-	1	0	0
TOTAL -	15	124	54	7	1	62	46	74	1.61	16	0	0
VOCATIONAL TECHNICAL SCHOOLS												
(Male)		1438	158	208	28	1044	907	87	2.00	105	9	23
(Female)		497	25	2	13	457	403	88	1.50	36	13	5
TOTAL -	148	1935	183	210	41	1501	1310	87	1.94	141	22	28
ALL PROGRAMS												
(Male)		2040	292	277	36	1435	1215	85	2.04	159	16	42
(Female)		696	54	2	30	610	517	85	1.52	69	19	8
GRAND TOTAL -	195	2736	346	279	66	2045	1732	85	1.96	228	35	50

*For comparison purposes average annual salaries reported were converted to hourly wages on basis of 40 hour week and 50 week year. Technical Institute programs are post-secondary.

Placement Data For

Distributive Education Programs

EDUCATION LEGISLATION, 1967

1999

DISTRIBUTIVE EDUCATION PROGRAMS	NUMBER OF COURSES	TOTAL NUMBER OF GRADUATES CLASS OF 1965	CONTINUED TRAINING IN FULL-TIME SCHOOL	ENTERED ARMED SERVICE	OTHER	AVAILABLE FOR EMPLOYMENT (Col. 2 minus 3, 4, and 5) (Col. 7 plus 10 to 12)	EMPLOYED IN OCCUPATION FOR WHICH TRAINED OR IN RELATED OCCUPATION			EMPLOYED IN OCCUPATION NOT RELATED TO TRADE	UNEMPLOYED	UNACCOUNTED FOR
							NUMBER	PERCENT	MEAN HOURLY WAGE			
(1)	(1a)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
DANBURY												
Danbury High School												
Male		11	2	2	0	7	5	71	1.80	2	0	0
Female		5	3	0	0	2	2	100	1.80	0	0	0
EAST HARTFORD												
Penney High School												
Male		22	4	4	0	14	9	64	-	5	0	0
Female		19	2	0	2	15	3	20	-	11	0	1
East Hartford High School												
Male		23	6	5	0	12	10	83	1.89	2	0	0
Female		12	1	0	0	11	7	63	1.89	4	0	0
EAST HAVEN												
East Haven High School												
Male		26	1	5	8	12	12	100	1.30	0	0	0
Female		16	0	0	2	14	14	100	1.30	0	0	0
GREENWICH												
Greenwich High School												
Male		8	4	0	0	4	4	100	1.71	0	0	0
Female		7	2	0	0	5	4	80	1.71	1	0	0
HARTFORD												
Hartford Public High School												
Male		26	6	6	0	14	7	50	1.34	4	1	2
Female		30	1	0	4	25	17	68	1.34	7	0	1
MILFORD												
Milford High School												
Male		26	12	8	0	6	6	100	1.55	0	0	0
Female		9	5	0	0	4	3	75	1.55	0	0	1
Jonathan Law High School												
Male		29	2	4	0	23	23	100	-	0	0	0
Female		30	2	0	6	22	22	100	-	0	0	0

DISTRIBUTIVE EDUCATION PROGRAMS (Cont'd)	NUMBER OF COURSES	TOTAL NUMBER OF GRADUATES CLASS OF 1965	CONTINUED TRAINING IN FULL-TIME SCHOOL	ENTERED ARMED SERVICE	OTHER	AVAILABLE FOR EMPLOYMENT (Col. 2 minus 3, 4, and 5) (Col. 7 plus 10 to 12)	EMPLOYED IN OCCUPATION FOR WHICH TRAINED OR IN RELATED OCCUPATION			EMPLOYED IN OCCUPATION NOT RELATED TO TRADE	UNEMPLOYED	UNACCOUNTED FOR
							NUMBER	PERCENT	MEAN HOURLY WAGE			
(1)	(1a)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
NEW HAVEN												
Wilbur Cross High School												
Male		18	0	1	0	17	0	0	-	11	6	0
Female		9	0	0	0	9	1	11	1.30	6	2	0
NORWALK												
Brien McMahon High School												
Male		11	1	0	0	10	10	100	1.50	0	0	0
Female		8	0	0	0	8	8	100	1.50	0	0	0
STAMFORD												
Stamford High School												
Male		7	5	1	0	1	0	0	-	1	0	0
Female		19	0	0	2	17	16	94	1.28	1	0	0
TORRINGTON												
Torrington High School												
Male		7	3	1	0	3	2	67	-	1	0	0
Female		5	3	0	0	2	2	100	-	0	0	0
WALLINGFORD												
Lyman Hall High School												
Male		10	2	1	0	7	6	86	1.45	0	0	1
Female		4	2	0	0	2	1	50	-	1	0	0
WATERTOWN												
Watertown High School												
Male		9	2	1	0	6	4	67	1.57	2	0	0
Female		9	5	0	0	4	3	75	1.57	0	1	0
WEST HAVEN												
West Haven High School												
Male		12	3	3	0	6	0	0	-	5	1	0
Female		3	2	0	0	1	0	0	-	1	0	0

DISTRIBUTIVE EDUCATION PROGRAMS (Cont'd)	NUMBER OF COURSES	TOTAL NUMBER OF GRADUATES CLASS OF 1965	CONTINUED TRAINING IN FULL-TIME SCHOOL	ENTERED ARMED SERVICE	OTHER	AVAILABLE FOR EMPLOYMENT (Col. 2 minus 3, 4, and 5) (Col. 7 plus 10 to 12)	EMPLOYED IN OCCUPATION FOR WHICH TRAINED OR IN RELATED OCCUPATION			EMPLOYED IN OCCUPATION NOT RELATED TO TRADE	UNEMPLOYED	UNACCOUNTED FOR
							NUMBER	PERCENT	MEAN HOURLY WAGE			
(1)	(1a)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
WILLIMANTIC												
Windham High School												
Male		10	0	0	0	10	10	100	1.59	0	0	0
Female		6	0	0	0	6	6	100	1.59	0	0	0
TOTAL (All Schools)	16	446	81	42	24	299	217	73	1.53	65	11	6
Male		255	53	42	8	152	108	71	1.53	33	8	3
Female		191	28	0	16	147	109	73	1.53	32	3	3

Placement Data For Technical Institutes

80-086 O—67—pt. 6——10

TECHNOLOGIES (BY INSTITUTES)	NUMBER OF COURSES	TOTAL NUMBER OF GRADUATES CLASS OF 1965	CONTINUED TRAINING IN FULL-TIME SCHOOL	ENTERED ARMED SERVICE	OTHER	AVAILABLE FOR EMPLOYMENT (Col. 2 minus 3, 4, and 5) (Col. 7 plus 10 to 12)	EMPLOYED IN OCCUPATION FOR WHICH TRAINED OR IN RELATED OCCUPATION			EMPLOYED IN OCCUPATION NOT RELATED TO TRADE	UNEMPLOYED	UNACCOUNTED FOR
							NUMBER	PERCENT	MEAN HOURLY WAGE			
(1)	(1a)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
CHEMICAL	2	16	2	2	0	12	10	83	2.83	1	1	0
Norwalk		12	1	2	0	9	9	100	2.86	0	0	0
Thames Valley (Norwich)		4	1	0	0	3	1	33	2.80	1	1	0
DATA PROCESSING	2	21	2	2	0	17	13	77	2.71	1	1	2
Hartford		12	1	0	0	11	7	63	2.64	1	1	2
Norwalk		9	1	2	0	6	6	100	2.79	0	0	0
ELECTRICAL	3	54	6	6	0	42	41	97	2.84	0	0	1
Hartford		14	0	1	0	13	13	100	2.73	0	0	0
Norwalk		31	6	4	0	21	20	95	2.78	0	0	1
Thames Valley		9	0	1	0	8	8	100	3.02	0	0	0
MECHANICAL	3	64	10	5	0	49	44	90	2.73	3	0	2
Hartford		19	3	1	0	15	13	86	2.80	0	0	2
Norwalk		31	5	4	0	22	19	86	2.71	3	0	0
Thames Valley		14	2	0	0	12	12	100	2.70	0	0	0
CIVIL	1	30	3	0	0	27	19	70	2.55	1	0	7
Hartford		30	3	0	0	27	19	70	2.55	1	0	7
TOOL	3	28	3	2	0	23	20	87	2.72	0	0	3
Hartford		7	0	0	0	7	4	57	2.56	0	0	3
Norwalk		9	2	2	0	5	5	100	2.86	0	0	0
Thames Valley		12	1	0	0	11	11	100	2.74	0	0	0
ELECTRO-MECHANICAL	1	5	1	2	0	2	2	100	2.86	0	0	0
Norwalk		5	1	2	0	2	2	100	2.86	0	0	0
METALLURGICAL	1	13	1	1	0	11	10	90	2.72	0	0	1
Norwalk		13	1	1	0	11	10	90	2.72	0	0	1

STATE TECHNICAL INSTITUTES (BY TECHNOLOGIES)	NUMBER OF COURSES	TOTAL NUMBER OF GRADUATES CLASS OF 1965	CONTINUED TRAINING IN FULL-TIME SCHOOL	ENTERED ARMED SERVICE	OTHER	AVAILABLE FOR EMPLOYMENT (Col. 2 minus 3, 4, and 5) (Col. 7 plus 10 to 12)	EMPLOYED IN OCCUPATION FOR WHICH TRAINED OR IN RELATED OCCUPATION			EMPLOYED IN OCCUPATION NOT RELATED TO TRADE	UNEMPLOYED	UNACCOUNTED FOR
							NUMBER	PERCENT	MEAN HOURLY WAGE			
(1)	(1a)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
HARTFORD												
Data Processing		12	1	0	0	11	7	63	2.64	1	1	2
Electrical		14	0	1	0	13	13	100	2.73	0	0	0
Mechanical		19	3	1	0	15	13	86	2.80	0	0	2
Civil		30	3	0	0	27	19	70	2.55	1	0	7
Tool		7	0	0	0	7	4	57	2.56	0	0	3
ALL TECHNOLOGIES		82	7	2	0	73	56	76	2.65	2	1	14
NORWALK												
Chemical		12	1	2	0	9	9	100	2.86	0	0	0
Data Processing		9	1	2	0	6	6	100	2.79	0	0	0
Electrical		31	6	4	0	21	20	95	2.78	0	0	1
Mechanical		31	5	4	0	22	19	86	2.71	3	0	0
Tool		9	2	2	0	5	5	100	2.86	0	0	0
Electro-Mechanical		5	1	2	0	2	2	100	2.86	0	0	0
Metallurgical		13	1	1	0	11	10	90	2.72	0	0	1
ALL TECHNOLOGIES		110	17	17	0	76	71	93	2.79	3	0	2
THAMES VALLEY (NORWICH)												
Chemical		4	1	0	0	3	1	33	2.80	1	1	0
Electrical		9	0	1	0	8	8	100	3.02	0	0	0
Mechanical		14	2	0	0	12	12	100	2.70	0	0	0
Tool		12	1	0	0	11	11	100	2.74	0	0	0
ALL TECHNOLOGIES		39	4	1	0	34	32	91	2.81	1	1	0
ALL SCHOOLS (ALL TECHNOLOGIES)		231	28	20	0	183	159	87	2.75	6	2	16

Placement Data For

Vocational Agriculture Programs

VOCATIONAL AGRICULTURE CENTERS	NUMBER OF COURSES	TOTAL NUMBER OF GRADUATES CLASS OF 1965	CONTINUED TRAINING IN FULL-TIME SCHOOL	ENTERED ARMED SERVICE	OTHER	AVAILABLE FOR EMPLOYMENT (Col. 2 minus 3, 4, and 5) (Col. 7 plus 10 to 12)	EMPLOYED IN OCCUPATION FOR WHICH TRAINED OR IN RELATED OCCUPATION			EMPLOYED IN OCCUPATION NOT RELATED TO TRADE	UNEMPLOYED	UNACCOUNTED FOR
							NUMBER	PERCENT	MEAN HOURLY WAGE			
(1)	(1a)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
CANAAN												
Housatonic Valley Regional High School		5	1	1	0	3	3	100	1.50	0	0	0
DANIELSON												
Killingly High School		6	3	1	0	2	1	50	2.25	1	0	0
GLASTONBURY												
Glastonbury High School		4	0	0	0	4	4	100	1.50	0	0	0
LEBANON												
Lyman Memorial High School		6	3	0	0	3	3	100	-	0	0	0
LITCHFIELD												
Wamogo Regional High School		10	6	0	0	4	4	100	1.32	0	0	0
MIDDLETOWN												
Woodrow Wilson High School		11	6	0	0	5	4	80	1.75	1	0	0
MOODUS												
Nathan Hale-Ray High School		7	0	1	0	6	2	33	1.57	4	0	0
NORWICH												
Norwich Free Academy		4	1	0	0	3	3	100	-	0	0	0
NEW MILFORD												
New Milford High School		3	0	0	0	3	3	100	1.70	0	0	0
ROCKVILLE												
Rockville High School		17	11	1	0	5	1	20	-	4	0	0
SOUTHINGTON												
Southington High School		3	0	0	0	3	0	0	-	3	0	0
STORRS												
Edwin O. Smith High School		4	2	0	0	2	0	0	-	2	0	0

VOCATIONAL AGRICULTURE CENTERS (Cont'd)	NUMBER OF COURSES	TOTAL NUMBER OF GRADUATES CLASS OF 1965	CONTINUED TRAINING IN FULL-TIME SCHOOL	ENTERED ARMED SERVICE	OTHER	AVAILABLE FOR EMPLOYMENT (Col. 2 minus 3, 4, and 5) (Col. 7 plus 10 to 12)	EMPLOYED IN OCCUPATION FOR WHICH TRAINED OR IN RELATED OCCUPATION			EMPLOYED IN OCCUPATION NOT RELATED TO TRADE	UNEMPLOYED	UNACCOUNTED FOR
							NUMBER	PERCENT	MEAN HOURLY WAGE			
(1)	(1a)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
WALLINGFORD												
Lyman Hall High School												
Male		22	13	0	0	9	9	100	1.37	0	0	0
Female		2	1	0	1	0	-	-	-	0	0	0
WOODBURY												
Ellis Clark Regional Vo-Ag Center												
Male		15	3	3	0	9	9	100	1.40	0	0	0
Female		1	0	0	0	1	0	0	-	1	0	0
WOODSTOCK												
Woodstock Academy		4	4	0	0	0	-	-	-	0	0	0
TOTAL (All Centers)	15	124	54	7	1	62	46	74	1.61	16	0	0
Male		121	53	7	0	61	46	76	1.61	15	0	0
Female		3	1	0	1	1	0	0	-	1	0	0

Placement Data For

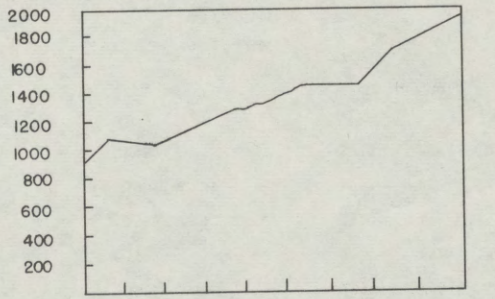
Vocational - Technical Schools

VOCATIONAL-TECHNICAL SCHOOL GRADUATES 1956-1965

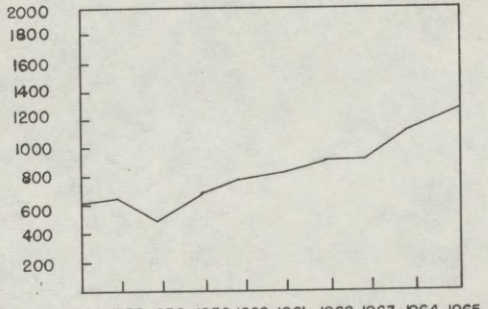
(1)	NUMBER OF COURSES (1a)	TOTAL NUMBER OF GRADUATES CLASS OF 1965 (2)	CONTINUED TRAINING IN FULL-TIME SCHOOL (3)	ENTERED ARMED SERVICE (4)	OTHER (5)	AVAILABLE FOR EMPLOYMENT (Col. 2 minus 3, 4, and 5) (Col. 7 plus 10 to 12) (6)	EMPLOYED IN OCCUPATION FOR WHICH TRAINED OR IN RELATED OCCUPATION: NUMBER (7)	PERCENT (8)	MEAN HOURLY WAGE (9)	EMPLOYED IN OCCUPATION NOT RELATED TO TRADE (10)	UNEMPLOYED (11)	UNACCOUNTED FOR (12)
1956		918	52	154	-	712	629	88	1.58	72	4	7
1957		1071	70	169	-	832	683	82	1.64	112	12	25
1958		1047	91	191	-	765	564	74	1.48	125	54	22
1959		1196	117	192	-	886	711	80	1.60	127	15	33
1960		1323	140	215	-	968	810	84	1.64	92	29	37
1961		1399	156	216	-	1027	848	83	1.70	116	27	36
1962		1504	151	193	-	1160	967	83	1.70	130	26	37
1963		1510	155	174	9	1172	981	84	1.80	116	31	44
1964		1797	222	173	33	1369	1183	86	1.87	132	27	27
1965		1935	183	210	41	1501	1310	87	1.94	141	22	28

VOCATIONAL-TECHNICAL SCHOOL GRADUATES

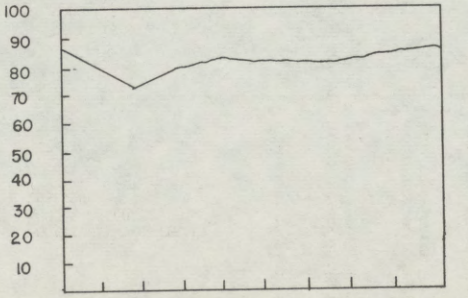
1956 - 1965



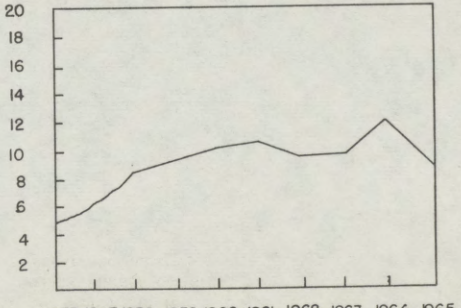
NUMBER OF GRADUATES



NUMBER EMPLOYED AT TRADE



PERCENT EMPLOYED AT TRADE



PERCENT CONTINUED FULL-TIME SCHOOL

Placement Data by Schools

Vocational-Technical Schools

BULLARD-HAVENS
REGIONAL VOCATIONAL
TECHNICAL SCHOOL
500 Palisades Avenue
Bridgeport, Connecticut

	NUMBER OF COURSES	TOTAL NUMBER OF GRADUATES CLASS OF 1965	CONTINUED TRAINING IN FULL-TIME SCHOOL	ENTERED ARMED SERVICE	OTHER	AVAILABLE FOR EMPLOYMENT (Col. 2 minus 3, 4, and 5) (Col. 7 plus 10 to 12)	EMPLOYED IN OCCUPATION FOR WHICH TRAINED OR IN RELATED OCCUPATION			EMPLOYED IN OCCUPATION NOT RELATED TO TRADE	UNEMPLOYED	UNACCOUNTED FOR
							NUMBER	PERCENT	MEAN HOURLY WAGE			
(1)	(1a)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Baker		7	0	0	0	7	5	71	2.00	2	0	0
Barber		11	0	0	0	11	11	100	1.75	0	0	0
*Barber		3	0	0	0	3	3	100	1.75	0	0	0
*Beauty Operator		14	4	0	0	10	9	90	1.50	1	0	0
Brick & Stonemason		9	0	3	0	6	5	83	2.50	0	1	0
Carpenter		27	0	2	0	25	23	92	2.10	2	0	0
Draftsman, Architectural		12	2	2	0	8	6	75	1.75	2	0	0
Draftsman, Mechanical		10	3	3	0	4	3	75	1.75	1	0	0
Electrician		24	2	8	0	14	13	92	2.00	1	0	0
Machinist		19	2	4	0	13	12	92	2.00	1	0	0
Mechanics & Repairmen (Auto)		22	3	3	0	16	15	93	1.75	1	0	0
*Needle Trades (Fashion Design)		21	2	1	0	18	11	61	1.45	4	3	0
*Nurse, Practical		47	1	0	0	46	46	100	1.85	0	0	0
Painter-Decorator		8	0	3	1	4	4	100	1.75	0	0	0
Plumber & Pipefitter		12	0	8	0	4	4	100	1.75	0	0	0
Printing Occupations		9	0	0	0	9	9	100	1.65	0	0	0
Technician (Electronics)		27	8	5	0	14	13	92	1.75	1	0	0
Tool & Die Maker		6	0	0	0	6	6	100	2.25	0	0	0
Vocational Homemaker		2	0	0	0	2	2	100	1.35	0	0	0
ALL TRADES		290	26	42	1	220	196	90	1.82	16	4	0
Male		203	20	41	1	141	126	91	1.91	11	1	0
*Female		87	6	1	0	79	70	89	1.58	5	3	0

HENRY ABBOTT
REGIONAL VOCATIONAL
TECHNICAL SCHOOL
Hayestown Road
Danbury, Connecticut

(1)	NUMBER OF COURSES (1a)	TOTAL NUMBER OF GRADUATES CLASS OF 1965 (2)	CONTINUED TRAINING IN FULL-TIME SCHOOL (3)	ENTERED ARMED SERVICE (4)	OTHER (5)	AVAILABLE FOR EMPLOYMENT (Col. 2 minus 3, 4, and 5) (Col. 7 plus 10 to 12) (6)	EMPLOYED IN OCCUPATION FOR WHICH TRAINED OR IN RELATED OCCUPATION			EMPLOYED IN OCCUPATION NOT RELATED TO TRADE (10)	UNEMPLOYED (11)	UNACCOUNTED FOR (12)
							NUMBER (7)	PERCENT (8)	MEAN HOURLY WAGE (9)			
Carpenter		11	2	2	0	7	6	85	2.49	1	0	0
Draftsman, Mechanical		13	0	1	0	12	9	75	1.85	3	0	0
Electrician		21	2	3	0	16	15	93	1.81	1	0	0
Machinist		18	1	2	0	15	14	93	2.01	1	0	0
Mechanics & Repairmen (Auto)		15	1	4	0	10	7	70	1.86	3	0	0
Technician, Electronics		9	5	0	0	4	4	100	1.83	0	0	0
ALL TRADES (All Male)		87	11	12	0	64	55	86	1.97	9	0	0

H. H. ELLIS
REGIONAL VOCATIONAL
TECHNICAL SCHOOL
Maple Avenue
Danielson, Connecticut

	NUMBER OF COURSES	TOTAL NUMBER OF GRADUATES CLASS OF 1965	CONTINUED TRAINING IN FULL-TIME SCHOOL	ENTERED ARMED SERVICE	OTHER	AVAILABLE FOR EMPLOYMENT (Col. 2 minus 3, 4, and 5) (Col. 7 plus 10 to 12)	EMPLOYED IN OCCUPATION FOR WHICH TRAINED OR IN RELATED OCCUPATION			EMPLOYED IN OCCUPATION NOT RELATED TO TRADE	UNEMPLOYED	UNACCOUNTED FOR
							NUMBER	PERCENT	MEAN HOURLY WAGE			
(1)	(1a)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
*Beauty Operator		7	0	0	1	6	6	100	1.28	0	0	0
Carpentry & Building Construction		7	0	0	0	7	6	85	2.21	1	0	0
Draftsman, Architectural		11	1	1	0	9	8	88	2.26	1	0	0
Draftsman, Mechanical		4	1	1	0	2	2	100	1.98	0	0	0
Electrician		11	3	1	0	7	6	88	1.75	0	0	1
Electronics		7	1	0	0	6	6	100	2.50	0	0	0
Machinist		8	2	0	0	6	6	100	2.28	0	0	0
Mechanics & Repairmen (Airplane)		14	3	3	0	8	8	100	2.44	0	0	0
Mechanics & Repairmen (Auto)		1	0	0	0	1	1	100	1.75	0	0	0
Tool & Die Maker		4	0	0	0	4	4	100	2.28	0	0	0
*Vocational Homemaker		3	0	0	1	2	2	100	1.60	0	0	0
ALL TRADES		77	11	6	2	58	55	95	2.03	2	0	1
Male		67	11	6	0	50	47	94	2.16	2	0	1
*Female		10	0	0	2	8	8	100	1.44	0	0	0

ELI WHITNEY
REGIONAL VOCATIONAL
TECHNICAL SCHOOL
Jones Road
Hamden, Connecticut

	NUMBER OF COURSES	TOTAL NUMBER OF GRADUATES CLASS OF 1965	CONTINUED TRAINING IN FULL-TIME SCHOOL	ENTERED ARMED SERVICE	OTHER	AVAILABLE FOR EMPLOYMENT (Col. 2 minus 3, 4, and 5) (Col. 7 plus 10 to 12)	EMPLOYED IN OCCUPATION FOR WHICH TRAINED OR IN RELATED OCCUPATION			EMPLOYED IN OCCUPATION NOT RELATED TO TRADE	UNEMPLOYED	UNACCOUNTED FOR
							NUMBER	PERCENT	MEAN HOURLY WAGE			
(1)	(1a)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
*Beauty Operator		11	0	0	0	11	7	63	1.33	1	2	1
Carpenter		15	0	5	0	10	9	90	2.18	1	0	0
*Certified Dental Assistant		24	1	0	0	23	18	78	1.52	3	2	0
Draftsman, Architectural		5	1	0	0	4	4	100	2.09	0	0	0
Draftsman, Mechanical		14	1	2	0	11	8	72	2.17	3	0	0
Electrician		18	3	2	0	13	12	92	1.78	1	0	0
Machinist		24	8	1	0	15	9	60	1.98	6	0	0
Mechanics & Repairmen (Auto)		25	3	7	0	15	10	66	1.78	4	0	1
*Needle Trades (Fashion Design)		12	2	0	0	10	7	70	1.38	3	0	0
Nurse, Practical (Male)		1	0	0	0	1	0	0	—	1	0	0
* (Female)		68	2	0	0	66	62	93	1.73	1	3	0
Plumber & Pipefitter		8	1	2	0	5	4	80	1.69	1	0	0
Printing Occupations		15	1	4	0	10	7	70	1.69	3	0	0
Lithographer		9	1	5	0	3	2	66	2.40	0	1	0
Technician (Electronics)		14	8	1	0	5	2	40	1.66	3	0	0
Tool & Die Maker		11	3	0	0	8	8	100	2.11	0	0	0
ALL TRADES		274	35	29	0	210	169	80	1.83	31	8	2
Male		159	30	29	0	100	75	75	2.02	23	1	1
*Female		115	5	0	0	110	94	85	1.41	8	7	1

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ALBERT I. PRINCE
REGIONAL VOCATIONAL
TECHNICAL SCHOOL
500 Brookfield Street
Hartford, Connecticut

	NUMBER OF COURSES	TOTAL NUMBER OF GRADUATES CLASS OF 1965	CONTINUED TRAINING IN FULL-TIME SCHOOL	ENTERED ARMED SERVICE	OTHER	AVAILABLE FOR EMPLOYMENT (Col. 2 minus 3, 4, and 5) (Col. 7 plus 10 to 12)	EMPLOYED IN OCCUPATION FOR WHICH TRAINED OR IN RELATED OCCUPATION			EMPLOYED IN OCCUPATION NOT RELATED TO TRADE	UNEMPLOYED	UNACCOUNTED FOR
							NUMBER	PERCENT	MEAN HOURLY WAGE			
(1)	(1a)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Barber		15	0	3	0	12	12	100	1.75	0	0	0
*Barber		4	0	0	0	4	4	100	1.75	0	0	0
*Beauty Operator		18	1	0	0	17	14	82	1.25	3	0	0
Carpenter		19	0	3	0	16	13	81	1.99	2	0	1
Draftsman, Mechanical		7	1	0	0	6	6	100	2.00	0	0	0
Electrician		31	3	4	0	24	22	91	1.64	0	0	2
Lithographer		3	0	0	0	3	3	100	1.68	0	0	0
Machinist		22	0	0	0	22	22	100	2.25	0	0	0
Masonry		13	2	0	0	11	11	100	2.23	0	0	0
Mechanics & Repairmen (Auto)		18	0	0	0	18	14	77	1.88	4	0	0
*Needle Trades (Fashion Design)		9	3	0	0	6	6	100	1.32	0	0	0
Plumber & Pipefitter		11	0	2	0	9	9	100	1.95	0	0	0
Printing Occupations		7	1	1	0	5	4	80	1.65	0	0	1
Technician (Electronics)		20	1	1	0	18	16	89	1.98	2	0	0
Tool & Die Maker		4	0	0	0	4	4	100	2.71	0	0	0
ALL TRADES		201	12	14	0	175	160	90	1.88	11	0	4
Male		170	8	14	0	148	136	91	1.98	8	0	4
*Female		31	4	0	0	27	24	88	1.44	3	0	0

HOWELL CHENEY
REGIONAL VOCATIONAL
TECHNICAL SCHOOL
Tolland Turnpike
Manchester, Connecticut

(1)	NUMBER OF COURSES (1a)	TOTAL NUMBER OF GRADUATES CLASS OF 1965 (2)	CONTINUED TRAINING IN FULL-TIME SCHOOL (3)	ENTERED ARMED SERVICE (4)	OTHER (5)	AVAILABLE FOR EMPLOYMENT (Col. 2 minus 3, 4, and 5) (Col. 7 plus 10 to 12) (6)	EMPLOYED IN OCCUPATION FOR WHICH TRAINED OR IN RELATED OCCUPATION			EMPLOYED IN OCCUPATION NOT RELATED TO TRADE (10)	UNEMPLOYED (11)	UNACCOUNTED FOR (12)
							NUMBER (7)	PERCENT (8)	MEAN HOURLY WAGE (9)			
Carpenter		4	0	1	0	3	3	100	2.25	0	0	0
Draftsman, Mechanical		5	2	2	0	1	1	100	2.20	0	0	0
Electrician		8	1	2	0	5	4	80	2.00	1	0	0
Machinist		7	0	1	0	6	6	100	2.35	0	0	0
Mechanics & Repairmen (Auto)		2	0	0	0	2	2	100	2.25	0	0	0
Tool & Die Maker		2	0	0	0	2	2	100	2.50	0	0	0
ALL TRADES (All Male)		28	3	6	0	19	18	94	2.25	1	0	0

HORACE C. WILCOX REGIONAL VOCATIONAL TECHNICAL SCHOOL Oregon Road, Meriden, Connecticut	NUMBER OF COURSES	TOTAL NUMBER OF GRADUATES CLASS OF 1965	CONTINUED TRAINING IN FULL-TIME SCHOOL	ENTERED ARMED SERVICE	OTHER	AVAILABLE FOR EMPLOYMENT (Col. 2 minus 3, 4, and 5) (Col. 7 plus 10 to 12)	EMPLOYED IN OCCUPATION FOR WHICH TRAINED OR IN RELATED OCCUPATION			EMPLOYED IN OCCUPATION NOT RELATED TO TRADE	UNEMPLOYED	UNACCOUNTED FOR
							NUMBER	PERCENT	MEAN HOURLY WAGE			
(1)	(1a)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
*Beauty Operator		8	0	1	3	4	2	50	1.37	2	0	0
Carpenter		11	0	2	0	9	9	100	2.11	0	0	0
Draftsman, Mechanical		15	0	1	2	12	9	75	1.95	2	1	0
*Draftsman, Mechanical		1	0	0	0	1	0	0	-	1	0	0
Electrician		10	0	6	3	1	1	100	1.92	0	0	0
Machinist		17	0	3	4	10	7	70	2.06	2	0	1
Mechanics & Repairmen (Auto)		12	0	0	0	12	11	91	1.85	1	0	0
Printing Occupations		8	0	0	3	5	4	80	1.63	1	0	0
Sheet Metal		6	0	4	0	2	1	50	2.32	1	0	0
Technician, Electronics		16	0	1	8	7	4	57	1.90	3	0	0
Took & Die Maker		14	0	2	2	10	10	100	2.20	0	0	0
ALL TRADES		118	0	20	25	73	58	80	1.93	13	1	1
Male		109	0	19	22	68	56	82	1.99	10	1	1
*Female		9	0	1	3	5	2	40	1.37	3	0	0

VINAL
REGIONAL VOCATIONAL
TECHNICAL SCHOOL
60 Daniels Street
Middletown, Connecticut

(1)	NUMBER OF COURSES (1a)	TOTAL NUMBER OF GRADUATES CLASS OF 1965 (2)	CONTINUED TRAINING IN FULL-TIME SCHOOL (3)	ENTERED ARMED SERVICE (4)	OTHER (5)	AVAILABLE FOR EMPLOYMENT (Col. 2 minus 3, 4, and 5) (Col. 7 plus 10 to 12) (6)	EMPLOYED IN OCCUPATION FOR WHICH TRAINED OR IN RELATED OCCUPATION			EMPLOYED IN OCCUPATION NOT RELATED TO TRADE (10)	UNEMPLOYED (11)	UNACCOUNTED FOR (12)
							NUMBER (7)	PERCENT (8)	MEAN HOURLY WAGE (9)			
Carpenter		8	0	0	0	8	6	75	1.77	2	0	0
Draftsman, Mechanical		5	1	0	0	4	1	25	1.78	3	0	0
Electrician		2	0	1	0	1	1	100	2.00	0	0	0
Machinist		4	0	0	0	4	4	100	1.81	0	0	0
Mechanics & Repairmen (Auto)		6	0	1	0	5	5	100	1.57	0	0	0
Technician, Electronics		7	2	1	0	4	3	75	1.81	1	0	0
Tool & Die Maker		4	0	0	0	4	4	100	1.84	0	0	0
ALL TRADES (All Male)		36	3	3	0	30	24	80	1.79	6	0	0

E. C. GOODWIN
REGIONAL VOCATIONAL
TECHNICAL SCHOOL
735 Slater Road
New Britain, Connecticut

(1)	NUMBER OF COURSES (1a)	TOTAL NUMBER OF GRADUATES CLASS OF 1965 (2)	CONTINUED TRAINING IN FULL-TIME SCHOOL (3)	ENTERED ARMED SERVICE (4)	OTHER (5)	AVAILABLE FOR EMPLOYMENT (Col. 2 minus 3, 4, and 5) (6)	EMPLOYED IN OCCUPATION FOR WHICH TRAINED OR IN RELATED OCCUPATION			EMPLOYED IN OCCUPATION NOT RELATED TO TRADE (10)	UNEMPLOYED (11)	UNACCOUNTED FOR (12)
						(Col. 7 plus 10 to 12)	NUMBER (7)	PERCENT (8)	MEAN HOURLY WAGE (9)			
Baker		2	1	1	0	0	-	-	-	0	0	0
*Beauty Operator		11	0	0	1	10	8	80	1.35	1	1	0
Carpenter		12	0	1	0	11	4	36	2.10	5	0	2
Draftsman, Mechanical		14	3	0	0	11	10	90	2.25	0	0	1
Electrician		14	2	3	0	9	6	66	2.20	2	0	1
Food Trades Worker (Male)		5	0	0	0	5	5	100	2.00	0	0	0
*(Female)		5	1	0	0	4	2	50	2.00	0	0	2
Machinist		29	0	4	0	25	22	88	2.00	0	1	2
Machinist (Automatic Screw)		6	0	2	0	4	3	75	2.10	0	0	1
Mechanics & Repairmen (Auto)		9	1	3	0	5	4	80	2.10	0	0	1
*Needle Trades (Fashion Design)		9	0	0	0	9	7	77	1.50	2	0	0
*Nurse, Practical		99	0	0	1	98	93	94	1.85	5	0	0
Plumber & Pipefitter		2	0	0	0	2	2	100	1.90	0	0	0
Printing Occupations (Male)		5	0	2	0	3	3	100	1.75	0	0	0
Technician, Electronics		14	8	2	0	4	3	75	2.00	1	0	0
Tool & Diemaker		5	0	0	0	5	5	100	2.00	0	0	0
ALL TRADES		241	16	18	2	205	172	84	1.93	16	2	10
Male		117	15	18	0	84	64	79	2.05	8	1	8
*Female		124	1	0	2	121	108	90	1.60	8	1	2

NORWICH
REGIONAL VOCATIONAL
TECHNICAL SCHOOL
590 New London Turnpike
Norwich, Connecticut

(1)	NUMBER OF COURSES (1a)	TOTAL NUMBER OF GRADUATES CLASS OF 1965 (2)	CONTINUED TRAINING IN FULL-TIME SCHOOL (3)	ENTERED ARMED SERVICE (4)	OTHER (5)	AVAILABLE FOR EMPLOYMENT (Col. 2 minus 3, 4, and 5) (Col. 7 plus 10 to 12) (6)	EMPLOYED IN OCCUPATION FOR WHICH TRAINED OR IN RELATED OCCUPATION: NUMBER (7)	PERCENT (8)	MEAN HOURLY WAGE (9)	EMPLOYED IN OCCUPATION NOT RELATED TO TRADE (10)	UNEMPLOYED (11)	UNACCOUNTED FOR (12)
Carpenter		13	0	1	0	12	9	75	1.90	3	0	0
Draftsman, Mechanical		20	5	2	0	13	9	69	2.00	2	0	2
*Draftsman, Mechanical		1	1	0	0	0	-	-	-	0	0	0
Electrician		20	4	3	0	13	13	100	1.94	0	0	0
Machinist		17	0	3	0	14	13	92	2.45	1	0	0
Mechanics & Repairmen (Auto)		11	0	1	0	10	10	100	2.00	0	0	0
*Needle Trades (Fashion Design)		2	1	0	1	0	-	-	-	0	0	0
Plumber & Pipefitter		5	0	0	0	5	5	100	2.22	0	0	0
Sheet Metal		6	0	1	0	5	4	80	2.27	1	0	0
ALL TRADES		95	11	11	1	72	63	88	2.13	7	0	2
Male		92	9	11	0	72	63	88	2.13	7	0	2
*Female		3	2	0	1	0	-	-	-	0	0	0

J. M. WRIGHT
REGIONAL VOCATIONAL
TECHNICAL SCHOOL
Woodside Park
Stamford, Connecticut

	NUMBER OF COURSES	TOTAL NUMBER OF GRADUATES CLASS OF 1965	CONTINUED TRAINING IN FULL-TIME SCHOOL	ENTERED ARMED SERVICE	OTHER	AVAILABLE FOR EMPLOYMENT (Col. 2 minus 3, 4, and 5) (Col. 7 plus 10 to 12)	EMPLOYED IN OCCUPATION FOR WHICH TRAINED OR IN RELATED OCCUPATION			EMPLOYED IN OCCUPATION NOT RELATED TO TRADE	UNEMPLOYED	UNACCOUNTED FOR
							NUMBER	PERCENT	MEAN HOURLY WAGE			
(1)	(1a)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
*Beauty Operator		16	1	0	0	15	15	100	1.48	0	0	0
Carpenter		13	0	3	0	10	10	100	2.20	0	0	0
Draftsman, Mechanical (Male)		9	3	0	0	6	4	66	1.84	2	0	0
Electrician		23	7	4	3	9	8	88	1.80	1	0	0
Food Trades Worker		7	1	0	0	6	6	100	1.55	0	0	0
*Licensed Practical Nurse		32	1	0	4	27	25	92	1.88	2	0	0
Machinist		6	0	1	0	5	5	100	1.83	0	0	0
Mechanics & Repairmen (Auto)		16	0	1	0	15	15	100	1.89	0	0	0
Plumber & Pipefitter		7	0	0	0	7	7	100	2.06	0	0	0
Printing Occupations		10	3	1	0	6	6	100	1.43	0	0	0
Sheet Metal Worker		5	0	0	0	5	5	100	2.37	0	0	0
Technician (Chemical) (Male)		1	1	0	0	0	-	-	-	0	0	0
*(Female)		5	1	0	0	4	4	100	1.80	0	0	0
Technician (Electronics)		7	0	1	0	6	6	100	2.20	0	0	0
Tool & Die Maker		10	1	1	0	8	8	100	1.89	0	0	0
*Vocational Homemaker		8	1	0	0	7	7	100	1.48	0	0	0
ALL TRADES		175	20	12	7	136	131	96	1.84	5	0	0
Male		114	16	12	3	83	80	96	1.91	3	0	0
*Female		61	4	0	4	53	51	96	1.61	2	0	0

OLIVER WOLCOTT
REGIONAL VOCATIONAL
TECHNICAL SCHOOL
75 Oliver Street
Torrington, Connecticut

	NUMBER OF COURSES	TOTAL NUMBER OF GRADUATES CLASS OF 1965	CONTINUED TRAINING IN FULL-TIME SCHOOL	ENTERED ARMED SERVICE	OTHER	AVAILABLE FOR EMPLOYMENT (Col. 2 minus 3, 4, and 5) (Col. 7 plus 10 to 12)	EMPLOYED IN OCCUPATION FOR WHICH TRAINED OR IN RELATED OCCUPATION			EMPLOYED IN OCCUPATION NOT RELATED TO TRADE	UNEMPLOYED	UNACCOUNTED FOR
							NUMBER	PERCENT	MEAN HOURLY WAGE			
(1)	(1a)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Carpenter		16	1	3	0	12	11	91	2.20	1	0	0
Draftsman, Mechanical		13	3	1	0	9	9	100	2.05	0	0	0
Electrician		14	1	5	0	8	7	87	2.25	1	0	0
Machinist		15	0	0	0	15	14	93	1.90	1	0	0
Mechanics & Repairmen (Auto)		8	1	1	0	6	4	66	1.45	2	0	0
ALL TRADES (All Males)		66	6	10	0	50	45	90	1.97	5	0	0

WARREN F. KAYNOR REGIONAL VOCATIONAL TECHNICAL SCHOOL 43 Tompkins Street Waterbury, Connecticut	NUMBER OF COURSES	TOTAL NUMBER OF GRADUATES CLASS OF 1965	CONTINUED TRAINING IN FULL-TIME SCHOOL	ENTERED ARMED SERVICE	OTHER	AVAILABLE FOR EMPLOYMENT (Col. 2 minus 3, 4, and 5) (Col. 7 plus 10 to 12)	EMPLOYED IN OCCUPATION FOR WHICH TRAINED OR IN RELATED OCCUPATION			EMPLOYED IN OCCUPATION NOT RELATED TO TRADE	UNEMPLOYED	UNACCOUNTED FOR
							NUMBER	PERCENT	MEAN HOURLY WAGE			
(1)	(1a)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
*Beauty Operator		9	1	0	0	8	5	62	1.44	1	1	1
Carpenter		6	0	1	0	5	5	100	2.21	0	0	0
Draftsman, Mechanical		32	9	3	1	19	16	84	1.88	1	0	2
Electrician		13	6	0	0	7	7	100	1.67	0	0	0
Machinist		38	3	1	0	34	32	94	1.97	0	2	0
Mechanics & Repairmen (Auto Body)		6	0	0	0	6	6	100	1.77	0	0	0
Mechanics & Repairmen (Auto)		9	0	2	0	7	5	71	1.55	1	0	1
Mechanics & Repairmen (Instrument)		9	1	2	0	6	5	83	2.10	1	0	0
*Needle Trades (Fashion Design)		10	1	0	0	9	7	77	1.30	1	0	1
Tool & Die Maker		1	0	0	0	1	1	100	1.97	0	0	0
ALL TRADES		133	21	9	1	102	89	87	1.78	5	3	5
Male		114	19	9	1	85	77	90	1.91	3	2	3
*Female		19	2	0	0	17	12	70	1.37	2	1	2

WINDHAM
REGIONAL VOCATIONAL
TECHNICAL SCHOOL
210 Birch Street
Willimantic, Connecticut

(1)	NUMBER OF COURSES (1a)	TOTAL NUMBER OF GRADUATES CLASS OF 1965 (2)	CONTINUED TRAINING IN FULL-TIME SCHOOL (3)	ENTERED ARMED SERVICE (4)	OTHER (5)	AVAILABLE FOR EMPLOYMENT (Col. 2 minus 3, 4, and 5) (6)	EMPLOYED IN OCCUPATION FOR WHICH TRAINED OR IN RELATED OCCUPATION			EMPLOYED IN OCCUPATION NOT RELATED TO TRADE (10)	UNEMPLOYED (11)	UNACCOUNTED FOR (12)
						(Col. 7 plus 10 to 12)	NUMBER (7)	PERCENT (8)	MEAN HOURLY WAGE (9)			
Carpenter		8	0	0	0	8	7	87	2.10	0	0	1
Draftsman, Architectural		5	0	1	1	3	3	100	2.08	0	0	0
Draftsman, Mechanical		10	2	4	0	4	3	75	1.88	1	0	0
Electrician		15	4	5	0	6	3	50	2.19	2	0	1
Machinist		19	0	3	0	16	12	75	2.20	2	2	0
Mechanics & Repairmen (Auto)		9	0	0	0	9	6	66	1.90	3	0	0
*Nurse, Practical		38	0	0	1	37	31	83	1.70	5	1	0
Technician (Electronics)		10	1	5	0	4	1	25	1.56	1	1	1
ALL TRADES		114	7	18	2	87	66	76	1.95	14	4	3
Male		76	7	18	1	50	35	70	1.99	9	3	3
*Female		38	0	0	1	37	31	83	1.70	5	1	0

Placement Data by Occupations
Vocational-Technical Schools

(1)	NUMBER OF COURSES (1a)	TOTAL NUMBER OF GRADUATES CLASS OF 1965 (2)	CONTINUED TRAINING IN FULL-TIME SCHOOL (3)	ENTERED ARMED SERVICE (4)	OTHER (5)	AVAILABLE FOR EMPLOYMENT (Col. 2 minus 3, 4, and 5) (Col. 7 plus 10 to 12) (6)	EMPLOYED IN OCCUPATION FOR WHICH TRAINED OR IN RELATED OCCUPATION: NUMBER (7)	PERCENT (8)	MEAN HOURLY WAGE (9)	EMPLOYED IN OCCUPATION NOT RELATED TO TRADE (10)	UNEMPLOYED (11)	UNACCOUNTED FOR (12)
BAKER (All Male)	2	9	1	1	0	7	5	71	2.00	2	0	0
BRIDGEPORT		7	0	0	0	7	5	71	2.00	2	0	0
NEW BRITAIN		2	1	1	0	0	-	-	-	0	0	0
BARBER	2	33	0	3	0	30	30	100	1.75	0	0	0
(Male)		26	0	3	0	23	23	100	1.75	0	0	0
(Female)		7	0	0	0	7	7	100	1.75	0	0	0
BRIDGEPORT (Male)		11	0	0	0	11	11	100	1.75	0	0	0
(Female)		3	0	0	0	3	3	100	1.75	0	0	0
HARTFORD (Male)		15	0	3	0	12	12	100	1.75	0	0	0
(Female)		4	0	0	0	4	4	100	1.75	0	0	0
BEAUTY OPERATOR (All Female)	8	94	7	1	5	81	66	81	1.37	9	4	2
BRIDGEPORT		14	4	0	0	10	9	90	1.50	1	0	0
DANIELSON		7	0	0	1	6	6	100	1.28	0	0	0
HAMDEN		11	0	0	0	11	7	63	1.33	1	2	1
HARTFORD		18	1	0	0	17	14	82	1.25	3	0	0
MERIDEN		8	0	1	3	4	2	50	1.37	2	0	0
NEW BRITAIN		11	0	0	1	10	8	80	1.35	1	1	0
STAMFORD		16	1	0	0	15	15	100	1.48	0	0	0
WATERBURY		9	1	0	0	8	5	62	1.44	1	1	1
BRICK & STONEMASON (All Male)	2	22	2	3	0	17	16	94	2.36	0	1	0
BRIDGEPORT		9	0	3	0	6	5	83	2.50	0	1	0
HARTFORD		13	2	0	0	11	11	100	2.23	0	0	0
CARPENTER (All Male)	14	170	3	24	0	143	121	84	2.13	19	0	3
BRIDGEPORT		27	0	2	0	25	23	92	2.10	2	0	0
DANBURY		11	2	2	0	7	6	85	2.49	1	0	0
DANIELSON		7	0	0	0	7	6	85	2.21	1	0	0

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CARPENTER (Cont'd)												
HAMDEN		15	0	5	0	10	9	90	2.18	1	0	0
HARTFORD		19	0	3	0	16	13	81	1.99	2	0	1
MANCHESTER		4	0	1	0	3	3	100	2.25	0	0	0
MERIDEN		11	0	2	0	9	9	100	2.11	0	0	0
MIDDLETOWN		8	0	0	0	8	6	75	1.77	2	0	0
NEW BRITAIN		12	0	1	0	11	4	36	2.10	5	0	2
NORWICH		13	0	1	0	12	9	75	1.90	3	0	0
STAMFORD		13	0	3	0	10	10	100	2.20	0	0	0
TORRINGTON		16	1	3	0	12	11	91	2.20	1	0	0
WATERBURY		6	0	1	0	5	5	100	2.21	0	0	0
WILLIMANTIC		8	0	0	0	8	7	87	2.10	0	0	1
CERTIFIED DENTAL ASSISTANT												
(All Female)	1	24	1	0	0	23	18	78	1.52	3	2	0
HAMDEN		24	1	0	0	23	18	78	1.52	3	2	0
DRAFTSMAN ARCHITECTURAL												
(All Male)	4	33	4	4	1	24	21	87	2.04	3	0	0
BRIDGEPORT		12	2	2	0	8	6	75	1.75	2	0	0
DANIELSON		11	1	1	0	9	8	88	2.26	1	0	0
HAMDEN		5	1	0	0	4	4	100	2.09	0	0	0
WILLIMANTIC		5	0	1	1	3	3	100	2.08	0	0	0
DRAFTSMAN MECHANICAL	14	173	35	20	3	115	90	78	1.96	19	1	5
Male		171	34	20	3	114	90	78	1.96	18	1	5
Female		2	1	0	0	1	0	0	-	1	0	0

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DRAFTSMAN MECHANICAL (Cont'd)												
BRIDGEPORT (Male)		10	3	3	0	4	3	75	1.75	1	0	0
DANBURY (Male)		13	0	1	0	12	9	75	1.85	3	0	0
DANIELSON (Male)		4	1	1	0	2	2	100	1.98	0	0	0
HAMDEN (Male)		14	1	2	0	11	8	72	2.17	3	0	0
HARTFORD (Male)		7	1	0	0	6	6	100	2.00	0	0	0
MANCHESTER (Male)		5	2	2	0	1	1	100	2.20	0	0	0
MERIDEN (Male)		15	0	1	2	12	9	75	1.95	2	1	0
(Female)		1	0	0	0	1	0	0	-	1	0	0
MIDDLETOWN (Male)		5	1	0	0	4	1	25	1.78	3	0	0
NEW BRITAIN (Male)		14	3	0	0	11	10	90	2.25	0	0	1
NORWICH (Male)		20	5	2	0	13	9	69	1.95	2	0	2
(Female)		1	1	0	0	0	-	-	-	0	0	0
STAMFORD (Male)		9	3	0	0	6	4	66	1.84	2	0	0
TORRINGTON (Male)		13	3	1	0	9	9	100	2.05	0	0	0
WATERBURY (Male)		32	9	3	1	19	16	84	1.88	1	0	2
WILLIMANTIC (Male)		10	2	4	0	4	3	75	1.88	1	0	0
ELECTRICIAN (All Male)	14	224	38	47	6	133	118	88	1.92	10	0	5
BRIDGEPORT		24	2	8	0	14	13	92	2.00	1	0	0
DANBURY		21	2	3	0	16	15	93	1.81	1	0	0
DANIELSON		11	3	1	0	7	6	85	1.75	0	0	1
HAMDEN		18	3	2	0	13	12	92	1.78	1	0	0
HARTFORD		31	3	4	0	24	22	91	1.64	0	0	2
MANCHESTER		8	1	2	0	5	4	80	2.00	1	0	0
MERIDEN		10	0	6	3	1	1	100	1.92	0	0	0
MIDDLETOWN		2	0	1	0	1	1	100	2.00	0	0	0
NEW BRITAIN		14	2	3	0	9	6	66	2.20	2	0	1
NORWICH		20	4	3	0	13	13	100	1.94	0	0	0
STAMFORD		23	7	4	3	9	8	88	1.80	1	0	0
TORRINGTON		14	1	5	0	8	7	87	2.25	1	0	0
WATERBURY		13	6	0	0	7	7	100	1.67	0	0	0

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							NUMBER (7)	PERCENT (8)	MEAN HOURLY WAGE (9)			
ELECTRICIAN (Cont'd)												
WILLIMANTIC		15	4	5	0	6	3	50	2.19	2	0	1
FOOD TRADES WORKER	2	17	2	0	0	15	13	87	1.77	0	0	2
(Male)		12	1	0	0	11	11	100	1.77	0	0	0
(Female)		5	1	0	0	4	2	50	2.00	0	0	2
NEW BRITAIN (Male)		5	0	0	0	5	5	100	2.00	0	0	0
(Female)		5	1	0	0	4	2	50	2.00	0	0	2
STAMFORD (Male)		7	1	0	0	6	6	100	1.55	0	0	0
MACHINIST (All Male)	14	243	16	23	4	200	178	89	2.07	14	5	3
BRIDGEPORT		19	2	4	0	13	12	92	2.00	1	0	0
DANBURY		18	1	2	0	15	14	93	2.01	1	0	0
DANIELSON		8	2	0	0	6	6	100	2.28	0	0	0
HAMDEN		24	8	1	0	15	9	60	1.98	6	0	0
HARTFORD		22	0	0	0	22	22	100	2.25	0	0	0
MANCHESTER		7	0	1	0	6	6	100	2.35	0	0	0
MERIDEN		17	0	3	4	10	7	70	2.06	2	0	1
MIDDLETOWN		4	0	0	0	4	4	100	1.81	0	0	0
NEW BRITAIN		29	0	4	0	25	22	88	2.00	0	1	2
NORWICH		17	0	3	0	14	13	92	2.45	1	0	0
STAMFORD		6	0	1	0	5	5	100	1.83	0	0	0
TORRINGTON		15	0	0	0	15	14	93	1.90	1	0	0
WATERBURY		38	3	1	0	34	32	94	1.97	0	2	0
WILLIMANTIC		19	0	3	0	16	12	75	2.20	2	2	0
MACHINIST (Automatic Screw)												
(All Male)	1	6	0	2	0	4	3	75	2.10	0	0	1
NEW BRITAIN		6	0	2	0	4	3	75	2.10	0	0	1
MECHANICS & REPAIRMEN												
(Airplane) (All Male)	1	14	3	3	0	8	8	100	2.44	0	0	0

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MECHANICS & REPAIRMEN (Cont'd)												
DANIELSON		14	3	3	0	8	8	100	2.44	0	0	0
MECHANICS & REPAIRMEN (Auto Body, Fender) (All Male)	1	6	0	0	0	6	6	100	1.77	0	0	0
WATERBURY		6	0	0	0	6	6	100	1.77	0	0	0
MECHANICS & REPAIRMEN (Automotive) (All Male)	14	163	9	23	0	131	109	83	1.82	19	0	3
BRIDGEPORT		22	3	3	0	16	15	93	1.75	1	0	0
DANBURY		15	1	4	0	10	7	70	1.86	3	0	0
DANIELSON		1	0	0	0	1	1	100	1.75	0	0	0
HAMDEN		25	3	7	0	15	10	66	1.78	4	0	1
HARTFORD		18	0	0	0	18	14	77	1.88	4	0	0
MANCHESTER		2	0	0	0	2	2	100	2.25	0	0	0
MERIDEN		12	0	0	0	12	11	91	1.85	1	0	0
MIDDLETOWN		6	0	1	0	5	5	100	1.57	0	0	0
NEW BRITAIN		9	1	3	0	5	4	80	2.10	0	0	1
NORWICH		11	0	1	0	10	10	100	2.00	0	0	0
STAMFORD		16	0	1	0	15	15	100	1.89	0	0	0
TORRINGTON		8	1	1	0	6	4	66	1.45	2	0	0
WATERBURY		9	0	2	0	7	5	71	1.55	1	0	1
WILLIMANTIC		9	0	0	0	9	6	66	1.90	3	0	0
MECHANICS & REPAIRMEN (Instrument) (All Male)	1	9	1	2	0	6	5	83	2.10	1	0	0
WATERBURY		9	1	2	0	6	5	83	2.10	1	0	0
NEEDLE TRADES (All Female) (Fashion Design)	6	63	9	1	1	52	38	73	1.39	10	3	1

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							NUMBER (7)	PERCENT (8)	MEAN HOURLY WAGE (9)			
NEEDLE TRADES (Cont'd)												
BRIDGEPORT		21	2	1	0	18	11	61	1.45	4	3	0
HAMDEN		12	2	0	0	10	7	70	1.38	3	0	0
HARTFORD		9	3	0	0	6	6	100	1.32	0	0	0
NEW BRITAIN		9	0	0	0	9	7	77	1.50	2	0	0
NORWICH		2	1	0	1	0	-	-	-	0	0	0
WATERBURY		10	1	0	0	9	7	77	1.30	1	0	1
NURSE, PRACTICAL	5	285	4	0	6	275	257	93	1.80	14	4	0
Male		1	0	0	0	1	0	0	-	1	0	0
Female		284	4	0	6	274	257	93	1.80	13	4	0
BRIDGEPORT (Female)		47	1	0	0	46	46	100	1.85	0	0	0
HAMDEN (Female)		68	2	0	0	66	62	93	1.73	1	3	0
(Male)		1	0	0	0	1	0	0	-	1	0	0
NEW BRITAIN (Female)		99	0	0	1	98	93	94	1.85	5	0	0
STAMFORD (Female)		32	1	0	4	27	25	92	1.88	2	0	0
WILLIMANTIC (Female)		38	0	0	1	37	31	83	1.70	5	1	0
PAINTER-DECORATOR (All Male)	1	8	0	3	1	4	4	100	1.75	0	0	0
BRIDGEPORT		8	0	3	1	4	4	100	1.75	0	0	0
PLUMBER & PIPE-FITTER (All Male)	6	45	1	12	0	32	31	96	1.92	1	0	0
BRIDGEPORT		12	0	8	0	4	4	100	1.75	0	0	0
HAMDEN		8	1	2	0	5	4	80	1.69	1	0	0
HARTFORD		11	0	2	0	9	9	100	1.95	0	0	0
NEW BRITAIN		2	0	0	0	2	2	100	1.90	0	0	0
NORWICH		5	0	0	0	5	5	100	2.22	0	0	0

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PLUMBER & PIPE-FITTER (Cont'd)												
STAMFORD		7	0	0	0	7	7	100	2.06	0	0	0
PRINTING OCCUPATIONS (All Male)	6	54	5	8	3	38	33	86	1.63	4	0	1
BRIDGEPORT		9	0	0	0	9	9	100	1.65	0	0	0
HAMDEN		15	1	4	0	10	7	100	1.69	3	0	0
HARTFORD		7	1	1	0	5	4	80	1.65	1	0	0
MERIDEN		8	0	0	3	5	4	80	1.63	1	0	0
NEW BRITAIN		5	0	2	0	3	3	100	1.75	0	0	0
STAMFORD		10	3	1	0	6	6	100	1.43	0	0	0
LITHOGRAPHER (All Male)	2	12	1	5	0	6	5	83	2.04	0	1	0
HAMDEN		9	1	5	0	3	2	66	2.40	0	1	0
HARTFORD		3	0	0	0	3	3	100	1.68	0	0	0
SHEET METAL WORKER (All Male)	3	17	0	5	0	12	10	83	2.32	2	0	0
MERIDEN		6	0	4	0	2	1	50	2.32	1	0	0
NORWICH		6	0	1	0	5	4	80	2.27	1	0	0
STAMFORD		5	0	0	0	5	5	100	2.37	0	0	0
TECHNICIAN (Chemical)	1	6	2	0	0	4	4	100	1.80	0	0	0
Male		1	1	0	0	0	-	-	-	0	0	0
Female		5	1	0	0	4	4	100	1.80	0	0	0
STAMFORD (Male)		1	1	0	0	0	-	-	-	0	0	0
(Female)		5	1	0	0	4	4	100	1.80	0	0	0
TECHNICIAN (Electronics) (All Male)	10	131	34	17	8	72	58	81	1.92	12	1	1

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							NUMBER (7)	PERCENT (8)	MEAN HOURLY WAGE (9)			
TECHNICIAN (Electronics) (Cont'd)												
BRIDGEPORT		27	8	5	0	14	13	92	1.75	1	0	0
DANBURY		9	5	0	0	4	4	100	1.83	0	0	0
DANIELSON		7	1	0	0	6	6	100	2.50	0	0	0
HAMDEN		14	8	1	0	5	2	40	1.66	3	0	0
HARTFORD		20	1	1	0	18	16	89	1.91	2	0	0
MERIDEN		16	0	1	8	7	4	57	1.90	3	0	0
MIDDLETOWN		7	2	1	0	4	3	75	1.81	1	0	0
NEW BRITAIN		14	8	2	0	4	3	75	2.00	1	0	0
STAMFORD		7	0	1	0	6	6	100	2.20	0	0	0
WILLIMANTIC		10	1	5	0	4	1	25	1.56	1	1	1
TOOL & DIE MAKER												
(All Male)	10	61	4	3	2	52	52	100	2.17	0	0	0
BRIDGEPORT		6	0	0	0	6	6	100	2.25	0	0	0
DANIELSON		4	0	0	0	4	4	100	2.28	0	0	0
HAMDEN		11	3	0	0	8	8	100	2.11	0	0	0
HARTFORD		4	0	0	0	4	4	100	2.71	0	0	0
MANCHESTER		2	0	0	0	2	2	100	2.50	0	0	0
MERIDEN		14	0	2	2	10	10	100	2.20	0	0	0
MIDDLETOWN		4	0	0	0	4	4	100	1.84	0	0	0
NEW BRITAIN		5	0	0	0	5	5	100	2.00	0	0	0
STAMFORD		10	1	1	0	8	8	100	1.89	0	0	0
WATERBURY		1	0	0	0	1	1	100	1.97	0	0	0
VOCATIONAL HOMEMAKER												
(All Female)	2	10	1	0	0	9	9	100	1.45	0	0	0
BRIDGEPORT		2	0	0	0	2	2	100	1.35	0	0	0
STAMFORD		8	1	0	0	7	7	100	1.48	0	0	0

AMERICAN VOCATIONAL ASSOCIATION, INC.,
Washington, D.C., August 23, 1967.

Hon. WAYNE MORSE,
Chairman, Education Subcommittee, Labor and Public Welfare Committee, U.S. Senate, Washington, D.C.

DEAR SENATOR MORSE: The enclosed AVA Study No. I—1967 is submitted for your use and consideration. This information was furnished to the AVA by the State Boards for Vocational Education and indicates Estimated Needs for Vocatonal-Technical Education through fiscal year 1970.

The states have indicated an estimated 1.2 billion Federal dollars will be needed by fiscal year 1970 to adequately serve an estimated 9 million students. This estimate is exclusive of funds which might be expended under the provisions of the Manpower Development and Training Act for institutional training.

We would call to your attention the fact that no funds have yet been appropriated for residential vocational schools. Yet, according to estimates received from the states, 68 residential vocational schools could be used effectively this fiscal year and moving up to 96 residential vocational schools by fiscal year 1970. The average estimated cost for constructing and equipping one residential vocational school has been placed at $4 million, with an average operational cost per year, per student (including both educational residential cost) of nearly $2,000. It is our firm belief that residential vocational schools can more effectively serve those students who need to be moved from their present environment in problem areas of the big cities and in depressed rural areas. Placing such students in an atmosphere for learning skills while still in school could result in a cure of the problem rather than a treatment of the symptom after the students have dropped out of school.

According to estimates provided by the states, we will need to prepare some 46,000 new vocational education teachers by fiscal year 1970. As you know, many of our vocational teachers are recruited directly from business and industry and they must be provided professional education courses to assist them in their newly chosen career. We must also up-date and up-grade technical competencies of current teachers in order to keep up with the changing demands of business and industry. For these reasons, the states have estimated that more than $24 million could be used this fiscal year for pre-service and in-service training, as well as for fellowships, stipends, and interships. Nearly $30 million could be used for these purposes in fiscal year 1970.

The states have estimated that over $25 million could effectively be used this year for vocational work-study programs. It is regretful that funds have been limited for this program, since many students need financial assistance to continue their vocational studies. The U.S. Office of Education reports that 97 per cent of the total funds for vocational work-study program have accrued directly to the students.

We are concerned that the matching provision under the Vocational Education Act for work-study is not comparable to that of other programs; i.e. the Neighborhood Youth Corps. For example, the Neighborhood Youth Corps program is funded 90 per cent by the Federal Government with 10 per cent matching by the states in cash or in kind. The vocational work-study program is funded 75 per cent by the Federal Government with the state and/or local governments matching 25 per cent. No provision is made for in kind matching under the vocational work-study program. Programs funded by the Federal Government should be consistent in matching provisions in order that students will not drop out of one program and enroll in another program because of higher benefits which may be received. I would also point out that vocational work-study students should be allowed to work a comparable number of hours, with comparable hourly pay, as in other Federally supported programs. The age limitation for vocational work-study programs should also be consistent with other Federally supported programs.

The work-study program, as you know, is an important and necessary part of the total vocational education program. Since vocational work-study programs can be offered through the public schools of our Nation, we have a National system for reaching the maximum number of potential students who could benefit through participation in quality programs which provide those essential skills needed for gainful employment and the improvement of the individual's economic

status. We believe it also important to point out that vocational work-study students are placed on jobs which relate to their training in school whenever possible.

Legislative authority for the vocational work-study program expires June 30, 1968. Therefore, if this vitally needed program to assist youngsters who could not otherwise afford to attend vocational schools is to continue without interruption and serve the need of thousands of youngsters, authorizing legislation must be enacted during this Session of Congress.

For research purposes, the states have estimated conservatively that more than $25 million could be used effectively by fiscal year 1970. Research and development funds are vitally needed in the vocational education program. As you are aware, Title I of the Manpower Development and Training Act provides research and development funds for those who are "hard to reach."

The "hard to reach" in most instances are the "hard to teach" who represent the "hard core of the human equation." This challenge to the socio-economic well being of this Nation and its people requires that vocational educators, in particular, carry on research and development activities in depth. This probing and seeking of new experiences and knowledge is essential to conceive new programs to meet specific issues, to study new methodology to accelerate and to improve the effectiveness of teaching/learning processes, to identify the nature of ancillary services essential for such groups, and to better utilize all human and material resources.

To these ends, and others, funds for research in vocational education are vitally needed. They should be made accessible to knowledgeable persons and agencies who have the capability to translate the needs of the "hard to reach" into functional, realistic vocational education and training programs which lead to immediate and, importantly, continuous employment.

We trust this information will be helpful to you.

Sincerely yours

LOWELL A. BURKETT, *Executive Director.*

A.V.A. STUDY NO. I, 1967—HIGHLIGHTS OF ESTIMATES CONCERNING VOCATIONAL-TECHNICAL EDUCATION

NOTE.—The figures reflected in this study include estimated projections received from all states and territories except Montana, North Dakota, Wyoming, District of Columbia, and Virgin Islands.

Estimated federal funds needed to adequately serve vocational-technical education needs, exclusive of MDT:

Fiscal year 1967	$414,988,890
Fiscal year 1968	560,835,000
Fiscal year 1969	656,316,499
Fiscal year 1970	1,213,616,689

Estimated local and state support for vocational-technical education:

Fiscal year 1967	$726,718,895
Fiscal year 1968	875,188,871
Fiscal year 1969	955,888,961
Fiscal year 1970	1,045,666,676

Total estimated projections (federal, state, and local) to adequately serve vocational-technical education needs:

Fiscal year 1967	$1,141,707,785
Fiscal year 1968	1,436,023,871
Fiscal year 1969	1,612,205,460
Fiscal year 1970	2,259,283,365

Estimated enrollment in vocational-technical education programs, exclusive of MDT:

Fiscal year 1967	7,097,600
Fiscal year 1968	7,781,205
Fiscal year 1969	8,829,562
Fiscal year 1970	9,059,695

44 states said matching by purpose should be abolished.

5 states said matching by purpose should be retained.

Estimated federal dollars needed for constructing, equipping, and remodeling facilities to adequately serve vocational-technical education needs:

Fiscal year 1967	$236,034,979
Fiscal year 1968	323,669,883
Fiscal year 1969	353,043,809
Fiscal year 1970	354,231,724

$3,996,051—average cost to construct and equip one residential school assuming 100% federal funding.

Average federal dollars needed to operate one residential school for a one year period:

Educational cost per student	$925
Residential cost per student	1,018

Seven states did not identify how many residential schools needed.

Vocational-technical education teachers now employed in the states, exclusive of MDT:

Full time	66,719
Part time	57,483

Total estimated teacher needs for all vocational-technical education:

	Full time	*Part time*	*Total*
Fiscal year 1967	69,252	64,968	134,220
Fiscal year 1968	81,741	73,730	155,471
Fiscal year 1969	86,591	79,116	165,707
Fiscal year 1970	93,954	85,934	179,888

Teacher training investment in fiscal year 1966:

Local	$2,761,176
State	7,181,290
Federal	5,617,396
Total	15,559,862

Total teacher trainers—1,956 of which 1,018 are full time and 938 are part time.

Persons given teacher training in fiscal year 1966:

Full-time students	29,785
Part-time students	35,915

Estimated federal dollars needed for pre-service, in-service, internship, and fellowship teacher training:

Fiscal year 1967	$20,191,991
Fiscal year 1968	24,090,195
Fiscal year 1969	27,280,495
Fiscal year 1970	29,442,010

Estimated federal dollars needed to provide work-study programs for students needing assistance in fiscal year 1967, $25,828,314.

Estimated number of students who should be served by work-study program:

Fiscal year 1967	323,403
Fiscal year 1968	353,858
Fiscal year 1969	379,307
Fiscal year 1970	396,599

41 states reported that the differential in matching among work-study programs created problems.

Estimated federal dollars states could use for vocational-technical education research.

Fiscal year 1967	$15,029,328
Fiscal year 1968	19,549,370
Fiscal year 1969	22,429,534
Fiscal year 1970	25,764,629

Estimated federal dollars needed to adequately finance educational component of the Manpower Development and Training program.

Fiscal year 1967	$225, 083, 180
Fiscal year 1968	247, 806, 604
Fiscal year 1969	259, 139, 644
Fiscal year 1970	270, 945, 468

ESTIMATES CONCERNING VOCATIONAL-TECHNICAL EDUCATION

A. PROGRAM OPERATION

1. In your state, what was the total expenditure for vocational-technical education, exclusive of training under the Manpower Development and Training Act, in fiscal year 1966?

	Total estimates
(a) Local	$306, 981, 866
(b) State	223, 555, 426
(c) Federal	224, 992, 499
(d) Total	755, 529, 791

2. Exclusive of MDT, what do you estimate the total expenditures will be in your state for vocational-technical education for fiscal year 1967?

(a) Local	$410, 565, 089
(b) State	297, 958, 418
(c) Federal	257, 367, 097
(d) Total	965, 890, 604

3. What amount of funds do you estimate you could effectively use in your state looking toward adequately serving all the vocational-technical education needs in the entire state, exclusive of MDT?[1]

(a) Fiscal year 1967	$1, 141, 707, 785
(b) Fiscal year 1968	1, 436, 023, 871
(c) Fiscal year 1969	1, 612, 205, 460
(d) Fiscal year 1970	2, 259, 283, 365

4. Of the amounts reported in question number three (3) how much do you estimate will be supported from state and local sources?

(a) Local	$726, 718, 895
(b) State	875, 188, 871
(c) Federal	955, 888, 961
(d) Total	1, 045, 666, 676

5. How many persons do you estimate will be enrolled in vocational-technical education programs in your state, exclusive of MDT in:

(a) Fiscal year 1967	$7, 097, 600
(b) Fiscal year 1968	7, 781, 205
(c) Fiscal year 1969	8, 829, 562
(d) Fiscal year 1970	9, 059, 695

6. How many persons do you expect to serve in vocational-technical education at the levels in fiscal year 1967, exclusive of MDT?

(a) Youth (14 to 21)	$3, 583, 697
(b) Adults (22 and older)	2, 948, 105
(c) Those with special needs	263, 098

7. How many Federal dollars would you estimate that your state would need for operational costs to adequately meet all vocational-technical education exclusive of MDT?

(a) Fiscal year 1967	$367, 690, 464
(b) Fiscal year 1968	465, 557, 674
(c) Fiscal year 1969	535, 594, 165
(d) Fiscal year 1970	596, 647, 391

[1] Include all costs involved, such as teacher training, buildings, equipment, administrative personnel, work-study funds, and all other components necessary for quality and quantity in vocational education.

8. What is your best estimate for *total state and local funds* likely to be available for use in vocational-technical education for operational costs exclusive of MDT?

(a) Fiscal year 1967	$609,035,491
(b) Fiscal year 1968	750,400,191
(c) Fiscal year 1969	818,349,809
(d) Fiscal year 1970	890,653,368

9. Would you prefer that the matching by purpose provisions of the Federal acts for vocational education be abolished?

(a) Yes	44
(b) No	5

B. MANPOWER DEVELOPMENT AND TRAINING

10. Give educational expenditures [2] under the MDT for fiscal year 1966.

(a) Local	$40,000
(b) State	432,938
(c) Federal	131,513,539
(d) Total	131,986,477

11. Estimate expenditures for education component under the MDT for fiscal year 1967?

(a) Local	$4,043,198
(b) State	11,741,187
(c) Federal	114,421,690
(d) Total	125,106,371

12. How many Federal dollars would you estimate you need to adequately finance the educational component of manpower training and retraining in your state in:

(a) Fiscal year 1967	$225,083,180
(b) Fiscal year 1968	247,806,604
(c) Fiscal year 1969	259,139,644
(d) Fiscal year 1970	270,945,468

13. Estimate the number of persons that will be trained under the MDT in fiscal year 1967:

(a)	144,471

14. In fiscal year 1967 how many are employed in your state to provide occupational training under the MDT as:

(a) Full-time teachers	4,261
(b) Part-time teachers	2,487
(c) State supervisors	305
(d) Local supervisors	1,195

C. BUILDING AND EQUIPMENT

15. How many Federal dollars would your state need for constructing, remodeling, and equipping facilities to adequately serve your state's needs for vocational-technical education:

(a) Fiscal year 1967	$236,034,979
(b) Fiscal year 1968	323,669,883
(c) Fiscal year 1969	353,043,809
(d) Fiscal year 1970	354,231,724

D. RESIDENTIAL SCHOOLS

16. Assuming 100% Federal funding is available, how many Federal dollars would you need to *construct* and *equip* one residential school to serve 500 students?

(a)	[3] $3,996,051

[2] Include costs for administration, supervision, institutional, and institutional training of coupled OJT projects.
[3] Average figure for the 49 States and territories reporting.

17. How many Federal dollars would you need to operate one residential school for a period of one year?

(a) Educational cost per student	[4] $925
(b) Residential cost per student	[4] 1,018

18. How many residential schools as identified above do you need to serve the people of your state in:

(a) Fiscal year 1967	57
(b) Fiscal year 1968	68
(c) Fiscal year 1969	84
(d) Fiscal year 1970	96

E. TEACHER EDUCATION

19. How many vocational-technical education teachers are now employed in your state, exclusive of those employed under the MDTA?

(a) Full time	66,719
(b) Part time	57,483
(c) Total	124,202

20. What are your total estimated teacher needs for all vocational-technical education?

(a) 1. Fiscal year 1967—full time	69,252
(a) 2. Fiscal year 1967—part time	64,968
(a) 3. Fiscal year 1968—full time	81,741
(a) 4. Fiscal year 1968—part time	73,730
(b) 1. Fiscal year 1969—full time	86,591
(b) 2. Fiscal year 1969—part time	79,116
(b) 3. Fiscal year 1970—full time	93,954
(b) 4. Fiscal year 1970—part time	85,934

21. How much did your state invest in teacher training in fiscal year 1966?

(a) Local	$2,761,176
(b) State	7,181,290
(c) Federal	5,617,396
(d) Total	15,559,862

22. Give number of teacher trainers in your state?

(a) Full time	1,018
(b) Part time	938
(c) Total	1,956

23. How many persons received teacher training in vocational education for fiscal year 1966?

(a) Full-time students	29,785
(b) Part-time students	35,915

24. Estimate the dollars you believe to be needed in Federal support for teacher training in your state?

(a) 1. Fiscal year 1967—Pre-service	$10,353,399
(a) 2. Fiscal year 1967—In-service	3,878,076
(a) 3. Fiscal year 1967—Internship	2,887,716
(a) 4. Fiscal year 1967—Fellowship	3,072,800
(b) 1. Fiscal year 1968—Pre-service	11,338,039
(b) 2. Fiscal year 1968—In-service	4,693,974
(b) 3. Fiscal year 1968—Internship	3,935,702
(b) 4. Fiscal year 1968—Fellowship	4,122,480
(c) 1. Fiscal year 1969—Pre-service	12,359,271
(c) 2. Fiscal year 1969—In-service	5,429,435
(c) 3. Fiscal year 1969—Internship	4,632,337
(c) 4. Fiscal year 1969—Fellowship	4,859,452
(d) 1. Fiscal year 1970—Pre-service	13,090,418
(d) 2. Fiscal year 1970—In-service	5,805,780
(d) 3. Fiscal year 1970—Internship	5,184,482
(d) 4. Fiscal year 1970—Fellowship	5,361,330

[4] Average figures for 49 States and territories reporting.

F. WORK STUDY

25. How many students do you estimate will be served under the work-study provisions of the Vocational Education Act of 1963 for fiscal year 1967?

(a) ---------- 42,628

26. How many Federal dollars would you estimate that you would need to provide work-study funds for all those students who need such assistance in fiscal year 1967?

(a) ---------- $25,828,314

27. How many state and/or local dollars will you have for work-study programs in fiscal year 1967?

(a) ---------- $4,315,442

28. If funds were available, now many students do you estimate that you should serve in the work-study program in:

(a) Fiscal year 1967---------- 323,403
(b) Fiscal year 1968---------- 353,858
(c) Fiscal year 1969---------- 379,307
(d) Fiscal year 1970---------- 396,599

29. Is the present differential in matching among the various work-study programs creating problems in your state?

(a) Yes ---------- [5] 41
(b) No ---------- 6

G. RESEARCH

30. How many Federal dollars would you estimate that your state could use for vocational and practical arts education research?

(a) Fiscal year 1967---------- $15,029,328
(b) Fiscal year 1968---------- 19,549,370
(c) Fiscal year 1969---------- 22,429,534
(d) Fiscal year 1970---------- 25,764,629

AMERICAN VOCATIONAL ASSOCIATION, INC.,
Washington, D.C., August 21, 1967.

HON. WAYNE MORSE,
Chairman, Subcommittee on Education, Labor and Public Welfare Committee, U.S. Senate, Washington, D.C.

DEAR SENATOR MORSE: At the time we testified before the General Education Subcommittee you gave me a note that you would like to have a statement that would show the similarities and differences between the fields of vocational trade and industrial education and industrial arts education.

Enclosed herewith you will find such a statement.

Sincerely yours,

LOWELL A. BURKETT,
Executive Director.

OPERATIONAL DESCRIPTION OF INDUSTRIAL ARTS EDUCATION AND TRADE AND INDUSTRIAL EDUCATION

Industrial Education is a generic term which broadly describes that part of the total educational program which includes instruction in industrial arts education and trade and industrial/technical education.

General Education

INDUSTRIAL ARTS EDUCATION

Industrial Arts is a program of education relating to the broad study of selected industries, as described below.

[5] Only 47 States responded of the 49 reporting.

I. Curriculum

The content is derived from a broad study of selected industries; including the use of tools, materials, and processes.

The curriculum provides for the development of conceptionalized skills and understandings.

The learning experiences provide opportunity to apply basic principles of the man-made world as a designer, planner, and user.

The content and programs are kept current with technological advances and changes in educational media.

The curriculum includes instructional programs—

Designed to acquaint students with the general functions and procedures of industry, including guidance for the broad spectrum of industrial occupations.

Designed to provide a study of the interrelationships of industrial activities leading to the production and manufacturing of industrial products.

Designed to provide an opportunity for a student to concentrate in a broad subject field such as electricity/electronics, drafting, graphic arts, automotive and power, materials and processes.

Designed to foster creative abilities and interests in the use of the tools and materials of industry.

II. Types of schools

Industrial arts programs are offered in elementary schools, junior high schools, post-secondary schools, colleges, and universities.

III. Teachers

A baccalaureate degree program with an approved major in industrial arts education is required for initial entry into the profession. The teacher education curriculum is taught and 100 per cent approved by industrial arts teacher educators.

The teacher must have completed a program of professional preparation, including a supervised internship or student teaching experience.

The teacher must have completed a program of professional preparation, including a supervised internship or student teaching experience.

Work experience is desirable as a basis for a broad understanding of industry and the world of work.

IV. Instructional facilities

Industrial arts facilities must meet standards set by regional accreditation associations and individual state requirements.

The facilities must include the tools, equipment, materials, and space necessary to implement the proposed curriculum.

V. Students

All students 9 through 12, post-secondary, college and adults, regardless of their occupational goals, could benefit from experiences offered in industrial arts.

Programs are planned for a large variety of student objectives such as—

Pre-collegiate programs providing industrial information preparatory to professional study.

General education programs providing a broad understanding and consumer experience in industrial subjects.

Elementary programs providing occupational and industrial guidance and introductory experiences in industrial arts.

Special programs for students having mental and physical handicaps, but still capable of profiting from special courses planned for their abilities.

VI. Guidance and counseling

Industrial arts education provides the student with basic experiences which help him make his occupational, educational, or professional choice.

Vocational

TRADE AND INDUSTRIAL/TECHNICAL EDUCATION

Trade and Industrial/Technical Education is a program of vocational education and training for gainful employment in trades, service, and industrial technical occupations as described below.

I. Curriculum

The content is determined by an analysis of the various job titles in an occupational field for which training is being given, such as machine industries occupations.

The curriculum is developed, reviewed, and up-dated with the assistance of management/labor representatives from industry.

The content is continuously changing and is up-dated to reflect technological changes in each occupational field.

Instructional materials include recent industrial publications and modern industrial devices and techniques as an integral part of the instructional programs.

The curriculum provides in-depth learning experiences and techniques which duplicate those found in industrial/technical employment.

The time schedule, level and amount of instruction must be adequate to develop necessary skills and related technical understanding essential for successful entry into and progress in a trade, service, industrial, or technical occupation.

Pre-employment programs are provided immediately preceding employment in order to be most effective.

Programs are designed to meet the full spectrum of needs from the single purpose operatives to the highly skilled trade and industrial/technical craftsman.

Pre-employment education and training is usually provided from grades 9 through 14.

Programs provide open-ended curriculum to permit vertical articulation from secondary to post-secondary levels.

Programs are provided around-the-clock and throughout-the-year. Such programs include pre-apprentice and apprentice training, re-training, occupational extension, and foremanship, supervisory and management development training.

II. Types of schools

Instructional programs in trade and industrial/technical education are offered at secondary and post-secondary levels. These are provided in a broad range of institutions including: industrial plants, departments in comprehensive high schools, vocational schools, departments in junior and community colleges, and in programs of less than baccalaureate level in some four-year institutions.

III. Teachers

The pre-requisite occupational proficiency is developed under actual wage earning situations in a trade, service, industrial or technical occupation.

High school graduation or the equivalent is required as the minimum education for acceptance into trade and industrial/technical education.

Potential teachers recruited from industry must possess personal, physical and moral qualities essential for the development of a successful teacher.

Quality vocational industrial/technical teacher education programs are required. Such programs are planned, directed and supervised by qualified vocational and industrial teacher educators.

IV. Instructional facilities

The plans for instructional shops, laboratories and related instructional classroom facilities are based upon occupational analyses and recommendations of vocational industrial advisory committees. The nature of the instructional plant and the variety of equipment are comparable, where practical to those found in industry.

Instructional supplies and materials are comparable to those found in industry and are available in sufficient quantity to develop adequate marketable skills.

V. Students

For youth and adults whose goal is entry into, retraining for, or upgrading in trade, industrial/technical occupations.

Students are selected in terms of potential employability.

The minimum entry age into the program is determined by the employability age at the completion of the educational and training program.

Students receive: A high school diploma endorsed in an occupational field upon completion of secondary programs; a certificate or associate degree with occupational endorsement for post-secondary programs; and a certificate of occupational competency for upgraded programs.

Persons with special occupational needs are served in vocational programs.

VI. Guidance and counseling

Organized programs of vocational guidance provide for recruiting, testing, and selecting students.

Vocational counseling services are provided for in-school and out-of-school youth and adults as an integral part of preparatory, retraining, or up-grading programs in trade and industrial/technical education.

Job placement and trainee follow-up are an integral part of the program.

Senator MORSE. The witnesses for Responsive Environments Corp. are still with us. They have been listening and waiting, and I want you to know that we want to hear you. We have Mr. John Martin and Mr. Myles Spector, and who else do we have?

Mr. MARTIN. We have Mr. Richard Kobler.

PANEL CONSISTING OF MYLES SPECTOR, PRESIDENT; JOHN H. MARTIN, SENIOR VICE PRESIDENT; AND RICHARD KOBLER, RESPONSIVE ENVIRONMENTS CORP.

Senator MORSE. Well, as you know, Senator Yarborough and I are great sponsors of audiovisual education, and I understand you are going to give us a laboratory demonstration here this afternoon with respect to your testimony. The time is yours. Take such time as you need. Make the record your own way.

Mr. MARTIN. Senator, may I introduce the president of our firm, Mr. Myles Spector, and we took the liberty in view of the unfortunate absence of the other industry representatives to invite Mr. Richard Kobler who is the inventor of the instrument and the chief scientist responsible to explain it. He is with us here, and we will ask your indulgence. I will ask Mr. Spector to make the first statement.

Senator MORSE. Thank you. Mr. Spector, you proceed in your own way.

STATEMENT OF MYLES SPECTOR, PRESIDENT, RESPONSIVE ENVIRONMENTS CORP.

Mr. SPECTOR. My name is Myles Spector. I am president of Responsive Environments Corp.

We have heard earlier today of the tremendous cost of remediation of vocational education, and in fact, in all forms of education. We have heard allusions to the educational problems of the country as being blamed for riot conditions in some of our cities. We have heard the expanding population and the poor conditions of the schools blamed for the ever larger, and increasing shortage of teachers, and the great need for even more dedicated ones.

We are here today as representatives of the educational technology industry, the latest form of the industrial revolution to impact on the last segment of our society that still represents the handcraft industry—the schoolhouse—and particularly we are here today to talk on the all-pervading question of literacy.

With scarce resources, the significant policy questions facing all of us must always be: What pattern of investment yields the best possible return for a given investment level? Questions concerning optimum investments raise very difficult issues indeed. However, in the educational process at least—if not in others—some achievements are pre-

conditions for any and all others. Every child and, indeed, every citizen must master the symbol system with which members of his culture communicate. Competence in this area of communicative skills, widely appreciated but imperfectly described as reading and writing, is a precondition for all further advance in the educational process and thus the further trainability of anybody for meaningful employment.

It should, therefore, be a touchstone of the educational investment to guarantee delivery of competence in this area, for without this foundation all other investments are of highly questionable value.

We are not here today to requote in detail the staggering and tragic statistics of the costs to society of the failure of the educational system to teach a major segment of our society the basic skills of reading and writing, the imperative necessity for success in this industrial, technological society of ours. The statistics are all too well known to you gentlemen. The figures of illiteracy vary from 8 million to 30 million adult Americans who are either totally or functionally illiterate. These are staggering figures indeed. And the children of these families are most likely to joint the ranks of these illiterates, perpetuating the cycle and chain of poverty—welfare payments and low consumership.

We are not here today with a simple panacea, a single solution to all of the educational community or for our society. But we do want to address the question of the implications of and the solutions to the gigantic illiteracy problem that faces us.

In the wake of the series of riots that have swept across the country, Senators, Congressmen, and many high officials seem to be in fairly universal agreement that a major part of the unrest was a failure of the educational system. There seems to be fairly universal recognition and statement of the problem. It starts with literacy, goes to training, jobs, and to the economic growth reflected in an expanding gross national product.

On the other hand is illiteracy, nontrainability, meaningful employment, and therefore hard-core unemployment or marginal employment at best, leading to frustration and a tinderbox for rioting or civil unrest at best.

We are not here merely to restate and pose still another problem for you gentlemen to ponder and leave you to grope for a solution, but rather to offer you a tried and tested answer, proven over 7 years in actual field use. It is an answer that was developed in the laboratories of American industry and now has been proven on a mass demonstration scale with the backing of the Federal Government.

If, gentlemen, a 4- or 5-year-old child were to walk through the door behind us and started reading to us, someone might say that this is a child prodigy—he is unusual—he is different—he was specially trained. But, if we would all go up to the disadvantaged area of New York City, known as the East New York section of Brooklyn, we could see dozens and dozens of such prodigies—white, Negro, Puerto Rican—with varying IQ levels and abilities in the responsive environment program center, officially an annex to a local public school. These children would traditionally be expected to have over a 75-percent failure rate in reading after 2 years in the school system. Yet, all of them know how to read, write, typewrite, spell, transcribe the words

they know and understand from only audio instruction, who are matching and even outperforming children attending the best schools of the city taught by traditional handcraft methods.

The side effects of their improvement in dress, behavior of the children and family adults, the stoppage of broken windows, the absolute lack of theft of even one single book from the center—and remember, many, many teenagers and adults went through this center since technology can effectively be used 14 or even 16 hours per day to help eliminate adult illiteracy in the evening hours.

The local civil rights leaders there, incidentally, attribute much of the "coolness" of this formerly very "hot" area to the hope engendered by this community learning center for the community's children, teenagers, and adults.

Truly an amazing paradox exists in this country today. Every day, pages and pages of job want ads for good jobs with good pay, good fringe benefits, appear in every paper across the country. The paradox is that for these millions of hard-core unemployed, barely existing on welfare handouts or submarginal jobs, these good jobs might just as well be on another planet, for most of them cannot even read well enough to read the ads or even qualify to be trained for the jobs.

Enjoying the fruits of learning, growth, and stimulation, however, requires a specific set of conditions. This set of conditions is not automatically brought into existence by policy statements. It must be created, and its creation and extension on a mass basis requires a technology of learning.

What is required in solving the problem is a system which incorporates into its very operation the result of research and learning, and delivers the result, not into journal articles, nor symposia, nor forums, or even dissemination conferences, but directly into the areas of disadvantage where it can be put to work directly. And, gentlemen, such systems exist now.

SET ASIDE

What is needed now is not necessarily new funds. We are not here to ask for massive expenditures on research which might work some day. There is no time for this in this country. But rather we are here to ask that the leadership of the Congress and the Federal Government urge American education to begin to use the latest marvels of American technology based on the knowledge gained from computer technology, to solve the critical issue of the teaching of beginning reading skills facing America today.

A relatively small percentage set aside of the current ESEA expenditures, for instance, 10 percent, can make a very strong beginning toward the solution of this gigantic job.

It can be done now for a cost of only a couple of hundred dollars per student to teach this basic of all important skills to all students of all ages, of all ethnic and levels of income, not just to a privileged percentage, to make possible a literal turnaround from a welfare cost drain on society of about $100,000 per lifetime to a taxpaying, earning power of $150,000 minimally per lifetime. This represents a net total profit, as we businessmen would put it, of over $250,000 per student, or a dollar return on investment of over 1,000 percent.

It can be done now with tested and proven technology, and we urge that the leadership of the Congress and the Federal Government guide it to mass use within the framework of the various present education acts and especially ESEA.

For instance, the Office of Education could start with guidelines for applications covering the minimum number of students and budget size to justify the investment in a school system.

This would encourage small districts to team up with their neighbors and set up learning centers with a wide scope. Other guidelines should cover the minimal requirements of the system. It should specifically address the reading problem, hardware and software should both be provided in a compatible system to teach beginning reading skills. The information concerning systems which qualify could be sent from Federal and State offices for dissemination to the schools.

Funds in this program could only be expended on systems qualifying under this special program, but local autonomy would be assured that in final selection, and for that matter, participation itself would be voluntary. These funds, however, should be allocated expressly for bringing new, proven technology to the reading problem and would not be available for any other program.

The example of Headstart and the past 2 years of ESEA has indicated the extent of the hunger and the popular support for a new, massive, effective literacy program for the benefit of the children, and indeed, all the citizens of our country. Thank you.

(The joint prepared statement of Mr. Spector and Mr. Martin follows:)

JOINT PREPARED STATEMENT OF MYLES SPECTOR, PRESIDENT, AND JOHN H. MARTIN, SENIOR VICE PRESIDENT, RESPONSIVE ENVIRONMENTS CORP., ENGLEWOOD CLIFFS, N.J.

Over the last decade, policy makers in the Nation, and perceptive people everywhere, have become aware of the massive trends which define the critical issues of our times. Tersely put, full participation in the scientific-industrial-technological society requires an increasing degree of sophistication in an increasing number of symbolic and conceptual skill areas, while the specific content of these skills is changing at an increasing rate in the individual's lifetime.

Simultaneously with this cultural mutation—which may be more profound than those wrought by agriculture, domestication, the growth of cities, or the industrial revolution—a gap is forming, widening by some standards and not decreasing by any, between those able to participate in modern society and those, for one reason or another, shut out.

The mitigation of the conflicts generated by this gap will require, in the last analysis, participation by all. *But it is becoming clear that such participation will not be achieved merely by extending the resource system currently serving the most favored sectors of our society.* That system is inefficient and produces uneven results in the best quarters. It is overloaded and the attempt to extend it unaltered will thin out its structure to the point of collapse. The chief political struggles of our time involve opportunity in its negative aspect: the struggle to remove barriers. But there is a danger that removing barriers will only reveal inadequacies in the opportunities thus opened up.

Hand in hand with the political struggle must come a technological revolution, itself as much of a mutation in our culture as the social changes which demand it. Opportunity must be given structure, content, and effectiveness, or else the victory will be an empty one.

The Federal government of the United States touches the lives of its citizens at a number of points. Due to the complex and decentralized nature of our society, many of these contacts effect the individual only indirectly, as in economic policy; or in a restraining manner, as with the legal system; or for contributions which

may be seen as sacrifices, as with income taxes; or in a palliative manner, as with old age, medical, and social security benefits.

In the educational sphere, however, that contact is positive in a number of senses: the individual is in direct contact with the process and the gains accrue to him directly; the process has content, form and structure; and the most important moments of the educational experience are the early ones, which are also the most long-lasting in their effects. These are the very real senses in which Federal responsibility and opportunity in education indeed constitute "the first work of these times."

The first two years of experience with the Elementary and Secondary Education Act have served to raise the sights of the Nation concerning what can be achieved in this work. It has also put before the Congress a heightened sense of the complexities of the Federal role. The six titles of the Act address differing points in the system in differing ways. Decisions embodied in these titles represent a pattern of investments, now under yearly debate. With scarce resources, the significant policy question must always be: what pattern of investment yields the greatest return obtainable for a given investment level? Such a question is asked with most relevance in a setting where information can be gathered regarding program performance, and a process is available whereby adjustments in emphasis can be implemented as the program develops.

Committee hearings such as this provide just such a mechanism for the ongoing evaluation and review of the Federal investment in education.

Questions concerning optimum investments raise difficult issues of value: do we possess a clear and uniform set of educational objectives? Which results might be expected soon, and which later? We cannot expects that the diverse views on such issues can be quickly reconciled. Fortunately, policy can be effectively identified and implemented without perfect information or complete agreement. In the educational process at least—if not in others—some achievements are preconditions for any and all others. *Every child must master the symbol system with which members of his culture communicate. Competence in the communicative skills—widely appreciated but imperfectly described as "readings" and "writing"—is a precondition for all further advance in the educational process.* It should therefore be a touchstone of the educational investment to guarantee delivery of competence in this area, for without this foundation, all other investment are of questionable value.

NEW PERSPECTIVES ON LANGUAGE AND LITERACY

The acquisition of spoken language follows a time course and sequence which is familiar to most of us and has been quite well established. In an environment with speaking adults, words emerge within the first year and a half. By the second year, two-word phrases are common. At around 30 months occurs the period of fastest increase in vocabulary, and by the end of the third year, vocabularies of 1,000 words are commonly employed in the production of sentences of five words and longer. Grammatical structure makes rapid advances during the fourth year, and by the fifth the spoken language of the child is fully established in near adult form. Within a wide range of environments offering human contact with the spoken materials of the culture, this timetable is governed by the maturing of underlying nervous system development and is relatively typical.[1]

We stress these familiar facts to remind ourselves that *the child learns language skills of a staggering degree of complexity quite early, prior to any formal schooling, and is typically ready for the next step—the development of reading skills—at a stage which, though viewed as early in educational tradition, is in fact natural and appropriate in terms of the developmental timetable.*

In recent years, an impressive body of research results has accumulated which details the enormous human potential for learning in the pre-school years. The list of researchers who can substantiate the powerful efficacy of early educational experience provides compelling evidence for the primacy of early learning in the development of language and communication skills. The weight of evidence is mounting against the traditional view which justifies a slow, late, gradual, and often impoverished approach to reading and writing, using as semi-technical justifications the often self-fulfilling phases, "reading readiness," "fixed intelligence," "inherited intelligence," and the like. Noteworthy among the spokesman

[1] E. H. Lenneberg, Biological Foundations of Language, New York: John Wiley and Sons, 1967. See especially Ch. 4.

for optimal early educational intervention are Bloom, at the University of Chicago;[2] Deutsch, of New York University;[3] Hunt, of the University of Illinois;[4] and Moore, of the University of Pittsburgh.[5]

The work of these and other investigators has provided both the theoretical framework and the research-based foundation for a wide range of projects such as pre-school remediation, educational programs for mother-child pairs, an early language arts exposure, environmental stimulation, and experimental day care programs involving children as young as six months of age.[6] It should be noted that while many of these programs of early intervention concentrate on socially disadvantage children, the research has shown that the spectrum of children who can benefit from early cognitive development programs embraces the mentally retarded, the normal and the intellectually gifted.[7] The results of these programs, including the federal Headstart program, have been so encouraging that educators are now beginning to express a formal commitment to educational programs which capitalize upon the potential of the early years.[8]

Bloom has examined about 1,000 studies of human growth and development. These include longitudinal studies which follow up the same individuals over periods of time. The consistent pattern emerging from this research may be summarized as follows: 1. Change measurements are generally unrelated to initial measurements but they are highly related to the relevant environmental conditions in which individuals have lived during the change period. 2. Variations in the environment have greatest quantitiative effect on a characteristic at its most rapid period of change and least effect on the characteristic during the least rapid period of change. *In general, the findings reveal the tremendous importance of the first few years of life for all that follows.* Change in many characteristics becomes more and more difficult with increasing age and only the most powerful environmental conditions are likely to produce significant changes at later stages of life.

Bloom demonstrates that for measures of intellectual growth, all test-retest correlations are low (in their ability to predict adult achievement), when the child is young but mount rapidly. He says:

"We would estimate the following values for the development of general learning as based on overall achievement indices (achievement test batteries, reading comprehension, and teachers marks) or based on general vocabulary development.

Percent of age 18 development

	Each period	Cumulative
Ages birth to 6	33	33
Ages 6 to 13	42	75
Ages 13 to 18	25	100

He goes on to say:

"We believe it is likely that more careful investigations will reveal even larger values for the preschool period and the first three years of elementary school than is suggested by the studies we have been able to assemble to date."[9]

If mastery of the spoken language is completed in the third and fourth years, when can mastery of reading and writing develop? The data on this issue is hardly complete, due in part to the hesitation of the educational system to test the limits. *But it is now possible to say with confidence that rapid progress in these areas is possible during the third, fourth and fifth years for all learners.*

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[2] Benjamin S. Bloom, Stability and Change in Human Characteristics (New York: John Wiley & Sons, 1964).

[3] Martin Deutsch, "Facilitating Development in the Pre-School Child: Social and Psychological Perspectives," Merril Palmer Quarterly, July 10, 1964.

[4] J. McV. Hunt, "The Psychological Basis for Using Pre-School Enrichment as an Antidote for Cultural Deprivation," in Fred M. Hechinger (ed.) Pre-School Education Today (Garden City, N.Y.: Doubleday and Co., 1966).

[5] Omar K. Moore, Autotelic Responsive Environments and Exceptional Children, Responsive Environments Foundation, Hamden, Conn. 1963.

[6] Catherine Chilman, *Growing Up Poor* (Washington: Government Printing Office, 1966) pp. 79 and 87.

[7] Henry Chauncey, Educational Testing Service Annual Report, 1962–1963. (Princeton: Educational Testing Service, 1963, pp. 9–11.)

[8] Educational Policies Commission, "Universal Opportunity for Early Childhood Education," (Washington: National Education Association, 1966).

[9] Bloom, *op. cit*, p. 110.

We may eventually conclude that an even earlier investment is feasible; but in contrast to current practice, the statement just made represents a significant departure.

Evidence for this assertion comes from a number of sources. Among the most significant of these sources are those which document certain developments in the technology of instruction. We will describe these later.

At present, we will state the case in summary fashion:

There is now compelling evidence of the crucial importance of the child's earliest years for his later intellectual growth and achievement. If he is exposed early to a properly stimulating environment the child may grasp the symbolic tools of his culture with remarkable speed.

As Kobler and Weber put it: "small children of all social and economic backgrounds can learn, under the proper conditions, the skills of reading, writing, numbering systems—and frequently several expressions of art, long before they have reached the age of six. They will do so with no great apparent effort or negative side effects." [10]

Awareness of this potential is filtering into educational policymaking groups in our society. The example of Head Start has been cited. Last July, the representative assembly of the National Education Association passed a resolution during its annual convention in Minneapolis, which stated in part:

"The National Education Association believes that the general system of universal public education should be expanded. To these ends the Association recommends that support be sought at all levels of government to extend the opportunity for education at public expense downward to the age of 4. In programs properly designed for children of these ages, schools can join with and enrich the efforts of home and family in educating children." [11]

Such policies arise in our time in recognition of a significant opportunity, and evidence that under special circumstances some children have profited from this opportunity. Enjoying the fruits of early learning, growth and stimulation, however, requires a specific set of condition. This set of conditions is not automatically brought into existence by policy statements such as the above. It must be created. And its creation and extension on a mass basis require a technology of learning.

PERFORMANCE OF THE EDUCATIONAL SYSTEM

In the course of the past hundred years, the American educational system has expanded the scope of its responsibility to provide an ever-increasing proportion of school age children with a basic education. In 1870, 57 percent of children aged 5 to 17 were enrolled in the public schools; [12] today, more than two thirds of our five year olds are enrolled in schools, 99% of children 6 to 13 are attending elementary school, and 93% of those aged 14 to 17 are in high school.[13] In absolute numbers, 48.7 million children were enrolled in elementary and secondary schools across the nation, as of 1965, and this figure is expected to reach 53.6 million in 1975.[14]

The educational process can be seen to be nearing 100% recruitment and participation at the beginning end. The slowly rising total contains within it a subtotal for the ages 5–13 years, which levels off at about 37 million. *This means an annual stream of about four and three-quarter million young Americans entering the school world each year over the foreseeable future.* On the basis of the current operation of the schools, what will be the projected fates of these pupils as they encounter their first formal learning task—reading and writing?

In the early 1960's the Carnegie Corporation funded an intensive study of the state of reading instruction in our schools, carried out by staff of the Harvard Graduate School of Education. The first publication of this study, *The Torch Lighters*,[15] "examined the collegiate preparation of teachers of reading and concluded that the granduating student is not always adequately trained to undertake the responsibility of helping children master the printed word."

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[10] Richard Kobler and Robert E. Weber, *The Crisis in Human Underdevelopment* Responsive Environments Corporation, March, 1967, p. 30.

[11] Educational Policies Commission, op. cit., Resolution 67–3.

[12] Kenneth A. Simon and W. Vance Grant, *Digest of Educational Statistics, 1966,* Government Printing Office, Washington, p. 27.

[13] *Ibid.,* p. 21.

[14] Kenneth A. Simon and Marie G. Fullam, *Projections of Educational Statistics to 1975–76,* U.S. Government Printing Office, Washington, p. 25.

[15] Austin, M. C., and Morrison, C., *The Torch Lighters:* Tomorrow's Teachers of Reading, Cambridge, Harvard Graduate School of Education 1961.

The authors of this study say, "Perhaps no other profession offers so meager a preparation; yet no other demands so much from its members." [16] The same team studied the actual teaching of reading, in a large-scale sampling of American schools. On the basis of "observations in about two thousand classrooms, and interviews with approximately twenty-five hundred school personnel, the staff concluded that present-day reading programs were mediocre at best and not currently designed to produce a future society of *mature* readers." [17]

The authors found the *scope* of reading instruction uneven: although nearly three quarters of the schools studied maintained kindergartens, only a quarter of those—19.6% of the total—taught reading to some children.[18] The authors cite research indicating that kindergarten programs increase reading skill, and recommend their establishment in all schools.[19]

Examining the reading practices which were employed, the authors report, ". . . it appears that teachers have not begun to move outside of old teaching frontiers. Indeed, practices that Dr. William S. Gray considered undesirable trends back in 1937 have become firmly entrenched in many of our schools today." [20] Concerning new approaches such as programmed instruction, they note that 41% of the teaching population queried "lacked knowledge of this instructional innovation, and none of the systems visited initiated research projects to test the effectiveness of programmed instruction." The authors recommend the introduction of a wide variety of these new self-teaching materials, on a trial basis and with evaluations, into the reading curriculum of elementary schools.[21]

More recently, in an extensive survey of the relation between research and practice in the teaching of reading,[22] carried out by Columbia's Bureau of Applied Social Research (and also funded by the Carnegie Corporation), Alan Barton found that reading researchers are poorly trained and perform part-time, one-shot research; that contact with other disciplines is poor; that the research, though "voluminous," is of poor quality and not cumulative; that reading materials themselves are unchanged by new research since the 1930's; and that teachers depend largely upon published and available materials, even where their own professional training might lead them to be recetive to novel approaches.

Thus, despite the magnitude of the educational enterprise to which we have committed ourselves, it comes as no surprise that some 8.3 million people over the age of 25 have slipped through the system and remain functionally illiterate. This group consists largely of older people, both white and non-white; those on farms, especially Negroes; rural migrants in urban centers, including Puerto Ricans; and migrant workers, including those in the west and southwest who speak Spanish.[23]

We know, too, that for many children, exposure to the school room is only a limited educational experience. Simply moving through the school system from grade to grade does not begin to guarantee that learning is taking place. Studies in Woodlawn, Chicago and East St. Louis, Illinois have shown that virtually all 16 to 21 year olds receiving public aid had completed the fifth grade, but more than 40% could not read at the fifth grade level.[24] And the Newark Board of Education reported this school year that a staggering 90% of sixth graders were more than two years retarded in reading.[25]

The causes of this failure to educate are several. The child himself may have suffered early retardation in an intellectually and physically deprived environment; his motivation may be suffering the effects of crystallized social attitudes on the part of parents, teachers, and others who write him off as a hopeless case, regardless of his actual potential. (A recent confirmation of the effect

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[16] Austin, M. C. and Morrison, C., *The First R: the Harvard Report on Reading and Elementary Schools,* New York: Macmillan 1963, p. 7.
[17] *Ibid.,* p. 2.
[18] *Ibid.,* p. 13.
[19] *Ibid.,* p. 219.
[20] *Ibid.,* p. 3.
[21] *Ibid.,* p. 230.
[22] Allen H. Barton and David E. Wilder, Research and practice in the teaching of reading: a progress report. In Miles, M. B. (ed) *Innovation in education.* New York: 1964, Teachers College, Columbia University, Ch. 16.
[23] Edward W. Price, "Undereducation in our American Society." *Basic Education for the Disadvantaged Adult,* Frank W. Lanning and Wesley A. Many eds, Houghton Mifflin Co., Boston, p. 4–5.
[24] Cook County Department of Public Aid, *Blackboard Curtain* 1962, and *First They Must Read,* 1963.
[25] *The Record,* Hackensack, Friday, July 28, 1967, p. 15.

of "writing off" was reported in the New York Times for August 8, 1967. Teachers were told that certain students could be expected, on the basis of test data, to "spurt ahead", while others would lag behind. Even though the students in these two groups were actually selected at random, both groups fulfilled the prophesy). In such data, it is often difficult to untangle the separate effects of these factors, but the overall picture is abundantly clear: *There are pockets of deprivation where entire school populations fall seriously below the national norms in reading skills, and this retardation is cumulative: the longer these children remain in school, the farther behind they fall.*

These differences in achievement are associated with race, socio-economic class, ethnic grouping, ghetto neighborhood, and conditions of rural isolation—any such factor which isolates entire groups from full social participation; and such factors typically compound each other. For example, a nationwide survey of about 1,500 school teachers characterized the social standing of students by occupation and income; in the early grades, children in both upper and lower socio-economic classes show very low rates of reading retardation; but, the authors report, "*by the fourth grade half or more of the classrooms mainly composed of lower-working-class children have a class average which is a year or more below the nominal grade level.*" [26]

A similar pattern emerges when students are characterized by ethnic grouping instead of socio-economic status. In a study conducted by James Coleman for the Office of Education, students were classified as Puerto Rican, Negro, Mexican-Americans, Indian Americans, Oriental Americans or "white majority." When the verbal test scores of first and twelfth graders are compared, we find that in every case, the minority scores are farther behind the majority in the twelfth grade than they were in the first.[27]

A graphical representation of this finding from the Coleman study is presented in Fig. 1.

The New York Board of Education classifies its schools according to whethers or not they are located in a "disadvantaged area." Median reading scores for students in the second, fifth, seventh and ninth grades show that students from disadvantaged areas are already behind their more fortunate counterparts in the second grade, and as we would not expect, the gap widens in successive years.[28] These figures parallel those in the now famous HARYOU study, *Youth in the Ghetto*, which compares achievement scores of youth in Central Harlem with those in New York City schools as a whole.[29]

The data drawn from the New York Times report is presented in Table I. This data, together with the HARYOU data, are presented together graphically in Fig. 2.

Admittedly, the studies we have been citing are cross-sectional and not longitudinal. That is, the data on children at different grade levels describes *different* children, not the same children at successive points in time. For precise documentation of the cumulative retardation process, longitudinal studies such as Bloom's are required. Nevertheless, the evidence is compelling enough to raise serious questions about the capacity of the educational process to deliver competence in these fundamental skills.

John A. Morell, Associate Director of the NAACP, commenting at the National Conference on the Education of the Disadvantaged held in 1966, posed the issue as follows:

"I have known that the gap in achievement of disadvantaged and advantaged children, substantial at first grade, widens over the next several years. It is assumed that this represents a challenge solely to the school, which is responsible for overcoming it. My personal inclination is to accept this view. But I and those who share this view would be on firmer ground if research could determine to what extent the widening of the gap represents school inadequacies and to what extent it represents the continuing and cumulative effect of the elements which produced the initial disparity. In other words, how much can the schools accomplish, under the wisest and most resourceful programs, so long as the nonschool environment of disadvantaged children remains essentially the same?" [30]

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[26] Barton & Wilder, *op. cit.*, p. 385.

[27] James S. Coleman, *Equality of Educational Opportunity*, Office of Education, U.S. Department of Health, Education, and Welfare, 1966, p. 9.

[28] Data on individual schools was supplied by the Board of Education to the *New York Times* and appeared there December 23, 1966. Tabulations were prepared by REC staff.

[29] *Youth in the Ghetto*, Harlem Youth Opportunities Unlimited, Inc. New York, 1964.

[30] *U.S. Office of Education*, National Conference on the Education of the Disadvantaged, 1966.

There is ample reason to conclude that increased investment in the materials and techniques of conventional pedagogy will not do the job. Where the school is most successful, it is for reasons which lie, at least in part, outside it in the neighborhood and the home. Barton has pointed to this in data drawn from teacher reports; Coleman confirms it in greater detail by showing that *conventional indices of educational excellence—conditions of buildings, library resources, special instructional programs and the like—are related only slightly to academic achievement. In contrast, socio-economic status is strongly related.* In fact, he concludes, "schools bring little influence to bear on a child's achievement that is independent of his background and general social context * * * this very lack of an independent effect means that the inequalities imposed on children by their home, neighborhood and peer environment are carried along to become the inequalities which they confront adult life at the end of school." [31]

The effect of a favored background is threefold. It *prepares* the child for learning, *motivates* him to achieve, and *rewards* him for good performance. Where this preparation-motivation-reward system exists, the school can capitalize upon this background and successfully present the child with a rich variety of stimuli for learning. Where it does not exist, as it does not among the children of the disadvantaged, *even the most intensive use of conventional educational techniques for remedial purposes will be only partially effective.* Inadequacies in the performance of remedial programs, as well as the severe personnel shortages which there programs are now encountering are pointed up by reports on the new Federal programs most directly concerned with education of the disadvantaged.

The experience of the two main massive Federal programs aimed at developing verbal skills in the disadvantaged young—the Head Start and ESEA Title I programs—reveals that limits are soon reached when conventional pedagogy is extended on the same "handcraft" basis. In the case of Headstart, gains developed during brief summer exposure may be quickly lost in subsequent school experience. Programs which emphasize good social and emotional adjustment appear to make little impact on specific cognitive skills of disadvantaged children.[32]

More serious, and more fully documented, are the problems reported in the first evaluations of the Title I program.[33]

This program, aimed at providing compensatory education to deprived children, spent nearly one billion dollars in its first year of operation. Half of that was spent on instruction, and two-thirds of that amount was devoted to language arts and remedial reading, areas which were identified as top priority by local educational agencies. *The report shows that the most pressing unmet need reported by all States lay in the area of basic reading and language arts instruction, and that the degree of lack in meeting these needs was the greatest in deprived groups and areas.*[34]

Concerning the personnel required to mount these programs, the report states:

"Title I programs have created an enormous demand for teachers, specialists, professionals, and subprofessionals. Many States reported serious shortages of personnel and are trying to solve the shortages through special training, use of subprofessionals, and new recruitment methods." [35]

When data on personnel shortages are analyzed by type, it is revealed that the major personnel shortage reported by all States, and regardless of community size, was in reading.[36]

Such findings suggest that the extension of the prevalent investment strategy may be reaching its limits already. Related to this point, and to the steps required to bring about an industrial revolution in education, based upon new technology, is the following finding in the States' report: Despite otherwise good coordination between Title I and most other titles of the bill, poor or ineffective coordination was reported with Title IV, the research title which should have spearheaded the flow of educational research into practice in the field.[37]

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[31] *Op. cit.*, p. 325.
[32] David P. Weikart, "Preschool Programs: Preliminary Findings," *The Journal of Special Education*, Vol. 1, No. 2, Winter, 1967.
[33] The States Report: The First Year of Title I, U.S. Office of Education, U.S. Government Printing Office, 1967.
[34] *Ibid.*, pp. 2, 3, 28.
[35] *Ibid*, p. 9.
[36] *Ibid*, p. 17.
[37] *Ibid*, p. 12.

What is required in solving the problem is a system which incorporates into its very operation the results of research in early learning, and delivers the results, not into journal articles, symposia, forums, or even dissemination conferences, but directly into the areas of disadvantage where it can be put directly to work.

The nature of the challenge is well put by Bloom, Davis and Hess in *Compensatory Education for Cultural Deprivation:*

"The task of changing the schools of the United States from a selective system which rewards and finally graduates only the more able students to one which develops each individual to his fullest capabilities is a difficult one. . . . What is now required is not equality of *access* to education (but) a system of compensatory education which can overcome or prevent earlier deficiencies in the development of each individual.[38]

This system of compensatory education must be derived from a coherent account of the learning process, a set of techniques which amplifies the potential of even the least well trained teacher, aide, or paraprofessional to capitalize upon it, and which can be delivered where it is needed.

A TECHNOLOGY OF READING INSTRUCTION

We have seen that mastery of the basic literacy skills, which are a precondition for all later learning, can begin quite early in the child's life, and that new evidence suggests that this early start is the most efficient educational investment. In contrast, the state of reading instruction in our nation is poor. It is poor by statistical standards, in that deep pockets of retardation, in contrast with naional norms, exist in our society, correlated with the inequitities of neighborhood, race, class, ethnicity, and other forms of isolation. Early signs of disadvantage are multiplied and amplified through the combined effects of falling behind on the part of the learner, and the progressive steps of writing off on the part of an overburdened educational system. The best results occur in settings where the school can utilize the preparation, motivation, and reward of forces outside the school. Thus extensions of current instructional practices in the school, even with improved materials and better trained teachers, cannot be counted upon to produce reliable instruction. Finally, it is likely that even our national norms are but a pale suggestion of what might be achieved, given proper motivational and instructional conditions now becoming available through a technology of early reading instruction.

Implementing a technology of literary must begin early and employ materials which are modern, meaningful, excellent, and culturally relevant. But most important of all, these important qualities must be embodied in a system which does not depend for its effectiveness upon variables outside the teaching system itself. *Enriched stimuli and interesting material must actively engage the behavior of the learner. To accomplish this, the teaching system must be designed to respond to the learner's behavior. Not only must material be presented in the appropritae stimulus mode, but the system itself must "reply" to the learner's explorations, thus rewarding his steps toward mastery.*

If we examine successful cases of early literacy development, we see that this condition of responsiveness is provided by the human environment on an extended scale. The studies summarized by Bloom, Davis and Hess show that the middle class family constitutes a learning system which pays off the child for attending to the verbal environment both before school, and also with respect to the material he encounters in school. *That is why academic achievement is more strongly correlated with social background than with materials used in school. The schools themselves can duplicate, and even extend, this effect, not merely by providing more stimuli through more media, but by providing a payoff system which is responsive to the child's behavior when stimulated.*

The technology which can duplicate these social effects, and do so with far greater efficiency, is now becoming available. The instrumentation exists, and the pedogogy is beginning to be understood.

If we assume a learner who can speak and understand a minimum vocabulary in his spoken language—a learner between the ages of three and six—and have as our objective both the growth of his spoken language *and* the development of reading and writing ability, the instrumental requirements include:

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[38] Benjamin Bloom, Allison Davis, & Robert Hess, *Compensatory Education for Cultural Deprivation,* Holt, Rinehart & Winston, Inc., 1965, p. 6.

(1) *Display:* The ability to display or present material in spoken form, printed form, and pictorial form. Thus instructions can be understood, spoken rewards can be given, and spoken models, lessers, words, shapes, colors, pictures, and so on can be presented.

(2) *Response:* The child must be able to respond to the device in forms relevant to his learning. A keyboard with letters and other symbols, microphone for voice recording, choice indicators, and a few control devices (e.g., allowing the child to moe from a lesson sequence to free typing and back again) are examples of the response requirements.

(3) *Feedback:* The system must be able, in turn, to respond to the learner's behavior. This feedback can take many forms, including: seeing the key one strikes print a letter and simultaneously hearing a voice identify it, pronouncing words which the child has just written out, naming colors, providing a spoken model with which the child can compare a recording of his own utterance, and—perhaps most important—simply moving quickly to the next step in the learning sequence. "Extrinsic" feedback such as praise may also be programmed into the system, but there is evidence that rapid responsiveness in terms of the intrinsic aspects of the material itself may do more than we expect in carrying the burden of motivation and reward.

4. *Control:* The system must be programmable, to handle the relations between display, response, and feedback which are appropriate to each stage in the learning process and to each step in a given learning sequence. At one stage, the free exploration of the child reduces the names of each key he strikes. At another stage, the only key which can be depressed is the one corresponding to the letter being displayed. At yet another, a voice speaks the confirmation of a word, phrase, or sentence. All of these relationships must succeed each other in the sequence prescribed for any given lesson, which may require several hundred shifts (technically, "commands") in a single half-hour session.

The significant point about this brief sketch of an automated learning system for literacy skills is that it is now available. The specifications given above are in fact those of the Edison Responsive Environment, marketed by Responsive Environments Corporation. About a half-dozen other firms are said to be in the process of developing similar systems. It is therefore fair to say that the application of a reading technology to the basic literacy problems of our educational system is enough of a reality, that the next steps in getting it implemented involve the creation of a market. *A fact of fundamental importance in evaluating the applications of automatic teaching systems is that they do not commit the user to any specific theory of language instruction. The technology provides a delivery system for lesson material from the earliest reading readiness to complicated exercises in composition.* Specific approaches, such as phonics, basal readers, or developmental approaches, can all be programmed, and in fact the virtues of any approach are likely to be maximized when delivered through a self-paced and responsive system. Eventually, we can look forward to an evaluation of approaches to reading instruction which pits methods against each other with each giving its most powerful results.

What is being recommended here has certain features in common with approaches labelled "programmed instruction" and also "computer-based instruction." The differences are worth noting. Programmed instruction derived from a theory of behavior which stresses, as we have here, that the learner grows in skill through exploring the consequences of his own behavior. Most material produced to date, however, has been limited in two respects: (a) the common type of pencil-and-paper program which has survived in the marketplace, since it assumes reading and writing ability and teaches specific content, cannot be applied to the generation of early literacy skills; (b) an unfortunate style, not essential to the technology, of oversimple responses and trivial steps, has been combined with a lack of exploratory freedom, both inappropriate to the early, often playful, learning of the young pupil.

Turning to computer-based instruction, we may say that the system we have described is, in the long run, compatible with a centralized control system and remote stations or consoles for each learner. We would point out that most such systems currently under development utilize a teletype and thus are restricted to sequences which assume reading and writing skills. Where a computerized system can be extended to include the special display and response capabilities needed in early learning, the two can accommodate each other.

The danger exists that the cost of centralized processors, time sharing technology, and leased lines, will retard entry into the market until the entire sys-

tem can serve a number of other educational needs as well: class scheduling, record keeping, and others. Such a development timetable would retard the application of an available technology to the critical issue of basic literacy, which we have singled out for emphasis, and which can be attacked immediately.

THE SYSTEM IN OPERATION

In the course of the last seven years, our own experience with an instrumented learning system has broadened. The device itself—the Edison Responsive Environment (or "Talking Typewriter") has undergone four major design changes, leading to increasing versatility and flexibility of programming. More important, our experience with the operation of learning installations has been scaled up from small one and two-machine projects in research settings, to an eight machine installation in a state mental health program, to five and eight-machine projects in public schools, and finally to a 20 machine project currrently supported by the Office of Economic Opportunity, through a grant to the New York City Board of Education, which serves several populations simultaneously in a low-income ethnic ghetto area in East New York.

The total learning system in operation requires a scheduling and logistics system whereby groups of learners come from the local schools for short sessions (about 20 minutes to a half hour) in the teaching system each day. Sessions are immediately followed by activities controlled by the teachers in a set of related classrooms which adjoin the learning laboratory. Figs 3 and 4 illustrate the concept of learning centers which serve an entire community, and suggest the facilities required to unite the automated learning units and classroom activities. Both the written material produced in the session, and numerical information read out of the system, provide the teacher with indices of the gains produced in each session, and serve as a base upon which to build related classroom activities.

A growing library of standard material is being adapted for use with the consequence that students experience maximum continuity between their sessions and follow-up work in the classroom.

When the teaching material is accompanied by diagnostic and placement tests, a highly refined individual placement process becomes possible, with programs selected on a daily basis for each student for each session. Progress in each session, is, of course, self-pacing.

Staffing such a system begins to reveal a new distribution of staff use. A small number of teachers and curriculum advisors can man a system which utilizes paraprofessionals drawn from the community, who encode programs, usher children in and out of the sessions, and perform other essential tasks. Figure 5 shows such a staffing pattern.

Maximum utility is obtained from the installation by devoting its service to pre-schoolers in the early morning, first and second graders in the late morning, remedial students from upper grades in the afternoon (including some dropouts who are returning for the program), and adult education classes in the evening. Thus the system is in operation for a full working day, and each machine can serve about 16 students per day, with programs easily changed to suit the needs of each individual.

RECOMMENDATION

From a pedagogical point of view, the critical feature of the technology we have described is that it directly engages the behavior of learner through a fast-feedback responsiveness which moves him individually through the explorations and steps of learning to read and write. From the viewpoint of the impact of the technology, its greatest effects are with those who need it most—who are least favored with "responsiveness" in their everyday milieu. The economics of the technology share the characteristics of and industrialization process:

1. Relatively high startup costs, especially for hardware, which
2. Once installed can serve large numbers of learners over a wide area at diminishing carrying costs, and
3. Can utilize the services of non-professional personnel acting under the guidance of a small technical team.

The investment cycle just described has not been characteristic of the educational process to date, and there is increasing awareness that shifts to an industrialized model is appropriate to the problems of an industrial civilization. As has been pointed out in hearings before the Subcommittee of Economic Progress (of the Joint Economic Committee):

"One of the reasons for the leadership exhibited by industry in the adoption of new training techniques is that a return-on-investment analysis can be conducted by the industrial establishment, which is familiar with the concept of amortization of costs over a period of several years, and with the identification of monetary value to long-range results. Public education, on the other hand, thinks primarily in terms of carrying costs, such as teachers' salaries and plant maintenance; the investment in education materials themselves is a small part of the educational bill, and furthermore represents a purchase in which fixed and variable costs are lumped together.

"Full utilization of the potential of new instructional technology on the part of the school system will require a shift to a different accounting approach, in which instructional investment is separated into fixed costs, amortized over time, and the carrying costs of material which is consumed. Such a shift will go hand in hand with the design of educational plant facilities which will permit such methods to take full effect: buildings which allow flexible scheduling, variable classroom size, and greater utilization of learning resource centers such as individualized study cubicles, audiovisual labs, and so on." [39]

The Federal Government can hasten this transformation in precisely the area of greatest need—basic literacy—by resolving to set aside funds for a programmatic attack upon this problem. Since Title I carries the major thrust of reaching the disadvantaged, the application of learning technology in this area could be administered under this Title.

The OE could set guidelines for applications, covering the minimum number of students and budget size to justify the investment in a system (to encourage small districts to team up with neighbors and set up a learning center with wide scope). Other guidelines should cover the minimal requirements of the system: It should address the reading problem, hardware and software should *both* be provided in a compatible system, etc. Information concerning systems which qualify can be sent from Federal to State offices, for dissemination to the schools. Funds in this program could *only* be expended on systems qualifying under this special program, but local autonomy would be assured in that final selection, and for that matter, participation, would be voluntary. These funds, however, would be allocated expressly for bringing new technology to the reading problem, and would not be available for any other program.

We believe that legislation along these lines would also stimulate a direct flow of new materials from the regional laboratories, and of insights from the R. & D. labs, into applications embodied in effective materials and delivered to the areas where they are most needed.

A substantial program could be launched, administered through the existing Title I mechanism, by setting aside 10% of the authorization of the Elementary and Secondary Education Act to make certain that the promises and capabilities of the new teaching technology be brought to bear upon the problem of the basic literacy skills of our Nation.

Senator MORSE. That is very fascinating testimony. All you have done, however, is get my curiosity running away from me, so I want to proceed now to satisfy it. And I am sure you will with these slides that you are about to show us. It is very, very helpful; thank you very much.

Mr. MARTIN. May I scratch your curiosity a little bit further and ask your indulgence in a continued presentation, Senator?

Senator MORSE. Yes.

STATEMENT OF JOHN H. MARTIN, SENIOR VICE PRESIDENT, RESPONSIVE ENVIRONMENTS CORP., ENGLEWOOD CLIFFS, N.J.

Mr. MARTIN. My name is John Martin. After 30 years of life in public education, from a one-room school in Alabama, and concluded as a city superintendent in the State of New York, the bulk of the

[39] Haizlip, H., and Donald A. Cook: *Statement on Technology in Education*, Hearings before the Subcommittee on Economic Progress, of the Joint Economic Committee, Eighty Ninth Congress, Second Session, June 6, 1966, U.S. Government Printing Office, Wash. 1966.

dispositional feeling that made me shift from a lifelong career as a teacher and a public school administrator was a growing conviction that the methodology and the procedures inherent in the organizational structure that evolved after a long period of time, was exhibiting breakdown and bankruptcy signs in terms of the central issue of our times, the basic reading problem of the children of the inner city, and for that matter, the children of a group of others not always found in the cities. You have heard the rollcall of these groups from the American Indian to the Mexican-American to the Appalachian white, to the Negro, both found in rural areas and the city to the Puerto Rican population. Our methodology and our standard instructional program is demonstrably ineffective and grossly ineffective in terms of these population groups. That is, the textbook material, the teacher training procedures, the methodology employed, just doesn't work.

Now, our observations and study, and we include in our study Bloom at Chicago and Deutsch in New York and McVicker Hunt in Illinois and some of the work we have done, leads us to think we have put our finger on one of the fundamental reasons.

FINDINGS OF RESEARCH

Now, there is a very interesting paradox in our findings for the current failure, as Mr. Spector said previously, which are that in excess of 75 percent of the children at the conclusion of that first year, concentrated on reading, in grade 1, the introduction to formal education in all schools, public and private in the United States, that 75 percent failure rates for the population groups that I have indicated is a tragedy. It is a tragedy in the sense that is produces a scar tissue and inner conviction of inability. The child is not taught that he can read. He is taught, to the contrary, that he is an outcast of our society. At 6 years of age, you don't need Freudian training to recognize the deep scar consequence of this, and 8 years later, having lived through 6 hours a day as a nonlearner in school, as a nonreader in school, his rejection or his sense of being rejected by society rises to a sense of wrath. One of the symptoms of that antagonism that is produced in children is the rising rate of window breakage in the schools of the cities. There are school systems and city systems in the United States spending more for window breakage and repairs than whole countries in Africa are currently able to spend on education for a total population. The window breakage is simply the equivalent and symptom of a disease like a medical practitioner would find in taking a pulse rate of the human being suffering from some unknown illness.

Now, the reason that the current educational program fails for these children is essentially the group outlook, a pattern of instruction remarkably well suited to the immigrant population of the past 75 years and before that the literacy requirement of a native American and his insistence that salvation, and literacy, came in reading of the Bible. This is the heritage of the common school and the public school in the United States. Such patterns sent children to school eager to learn. For, each successive wave of immigrants sought education as a ladder

to move out of the poverty belt, and a child who did not perform in school was considered a familial detachment; what we call in today's language, he was prepared to learn, he was motivated to learn, and he was rewarded by success * * * by familial approval.

Now, all of these family pattern structures of the ethnic groups that we have cited here, from the native American Indian to the Negro in our cities, exhibit as a result of their outcast status or the economic deprivation status in our society, that there was no point historically to succeeding in schools, for success in school was irrelevant to subsequent success in life. This is too little understood in talking about what we do with Federal funds in education. So it is easy to see in terms of the American sensitivities in our culture of compassion that hungry children need to be fed in order to learn. The children with teeth defects and toothaches as well as growling pains in their stomachs do not learn. The children who come from disturbed and hostile environments in which their capacity to sit and learn and to accept group discipline to make it possible for them to learn, needed psychological assistance and help and support of their instruction. So, the bulk of our money in the past 2 years under title I has gone to these kinds of supplemental supports in the absence of a familial structure that is essential for learning in the school.

NATURE OF LEARNING PROCESS

But, the central core of the nature of the learning process in the school has remained untouched and so we are witness to the fact that hundreds of dollars have been poured into supplemental, necessary services without consequent change in the quality of the educational outlook, because the central academic issue of teaching children to read has been untouched by the supplemental services of the remediation type I have just mentioned. So Headstart, you see, which has not addressed itself to an academic issue, has revived and given children a sense of purpose and help. But once they move into an academic structure that did not change itself in the methodology and the curriculum and the content of the textbooks, to the natural needs of these children, the Headstart collapses. Now we are talking about a follow through which is to maintain the supplemental services, dietary, medical, dental, supportive psychological and social welfare services necessary to sustain these children, with a failure to recognize that the core issue is the nature of the academic training that begins at age 6, historically, in all of the schools of the United States, public and private.

This is the central issue, and it is this psychological trauma, this damage that occurs, that is simply aggravated and multiplied. The charts that we have illustrate this. You may have seen the data before. In the lefthand margin are the entering scores, the test scores of children, and you can see that as the years go across the page at the bottom, to 12 years, that the gap increases with each succeeding year.

So that if your youngster comes from an inner city slum, essentially, by whatever measures we have, about 1 year mentally younger or less

able to profit from academic learning, 12 years later the 1-year gap is typically 4 to 5 years academically, as we have heard today from the vocational people and a host of others testifying evidence to this fact. This data is drawn from the Coleman study, which is probably the best single documented study of socioeconomic class and its effects on education.

What we are suggesting is the introduction of proven computer-based technology to effect a fundamental change in the teaching of beginning skills in reading. This major modification of the current philosophy of reading instruction should reverse the disastrous trend which provides this country its castoffs, dropouts, functional illiterates, and adult unemployables. While rapid use of educational technology can do much to rescue potential dropouts among our adolescents and return adult illiterates to the work force of the country, its use in the very early teaching of reading to the young children in our schools will have the greatest impact and provide the greatest long-term benefits to the Nation as a whole.

Now, if I may take a moment to give you a fast look at the slides.

Senator MORSE. Before you do, I want to say, Senator Yarborough, some weeks ago I had breakfast with Mr. Martin, at which he discussed the very subject matter that is before the subcommittee. Counsel arranged it at my request, and certain materials were presented to Charlie Lee, and I was so enthralled by the prospect of that kind of approach that I asked Mr. Martin to appear before the subcommittee to give us the testimony that he will give today. I wish all members of the subcommittee were here. I would like to have Mr. Lee insert in the record the professional credentials of Mr. Spector and Mr. Martin because I want Senator Yarborough to know that we are listening to men here this afternoon that are highly qualified to talk on the educational aspects of the subject matter, and Mr. Martin is a long standing and experienced educator and a superintendent of schools, and, therefore, we are listening, may I say in my judgment, not to a commercial in a business sense, but listening to men who know how to take technology and invention and apply it to the learning process.

Senator YARBOROUGH. Senator Morse, I will just say that I did not need the credentials. It reminds me of what an old judge said in a case before he put an expert witness on the stand. He started to recite the professional credentials and the court said, "All right, we will waive those and you just start talking and we will soon know whether you know your subject or not."

Senator MORSE. You heard him, but the members of the subcommittee that did not hear him, they will have to read. I want to make a reading record for them.

(The information may be found in appendix H.)

Mr. MARTIN. Thank you, Senators, both of you.

This is only 6 or 7 minutes long, and if you would like to stop it at any point for questions, please go ahead.

(Showing of slide presentation.)

Slide Presentation

of the Responsive Environments Corporation

Shown before the

Subcommittee on Education

of the

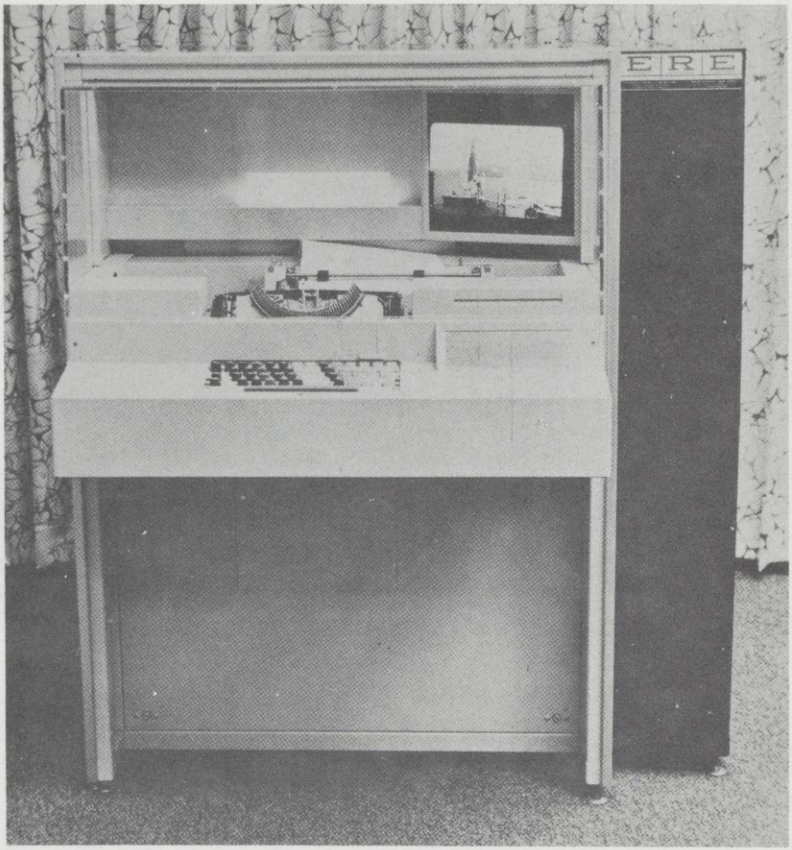
Committee on Labor and Public Welfare

Wayne Morse, Chairman

United States Senate

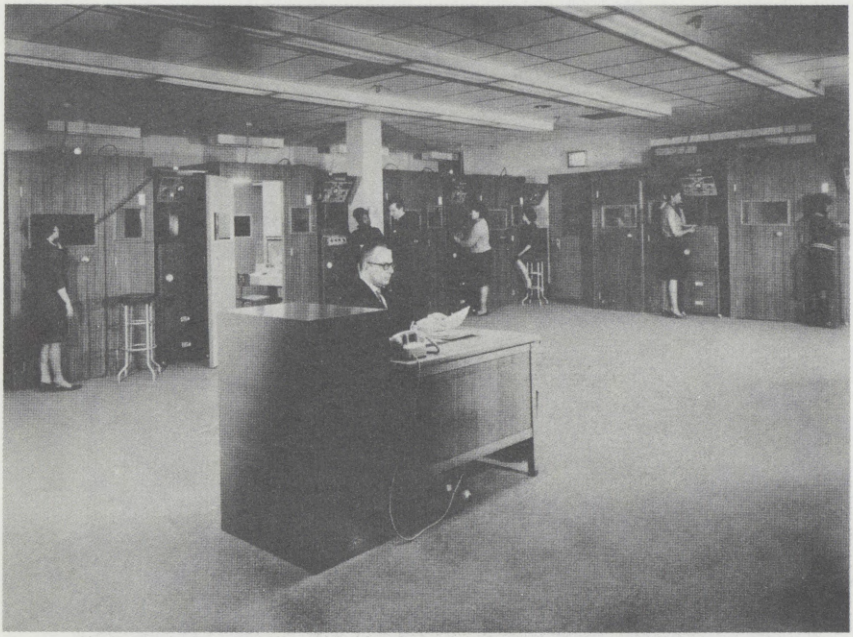
Washington, D.C.

Responsive Environments Corporation
200 Sylvan Avenue
Englewood Cliffs, New Jersey



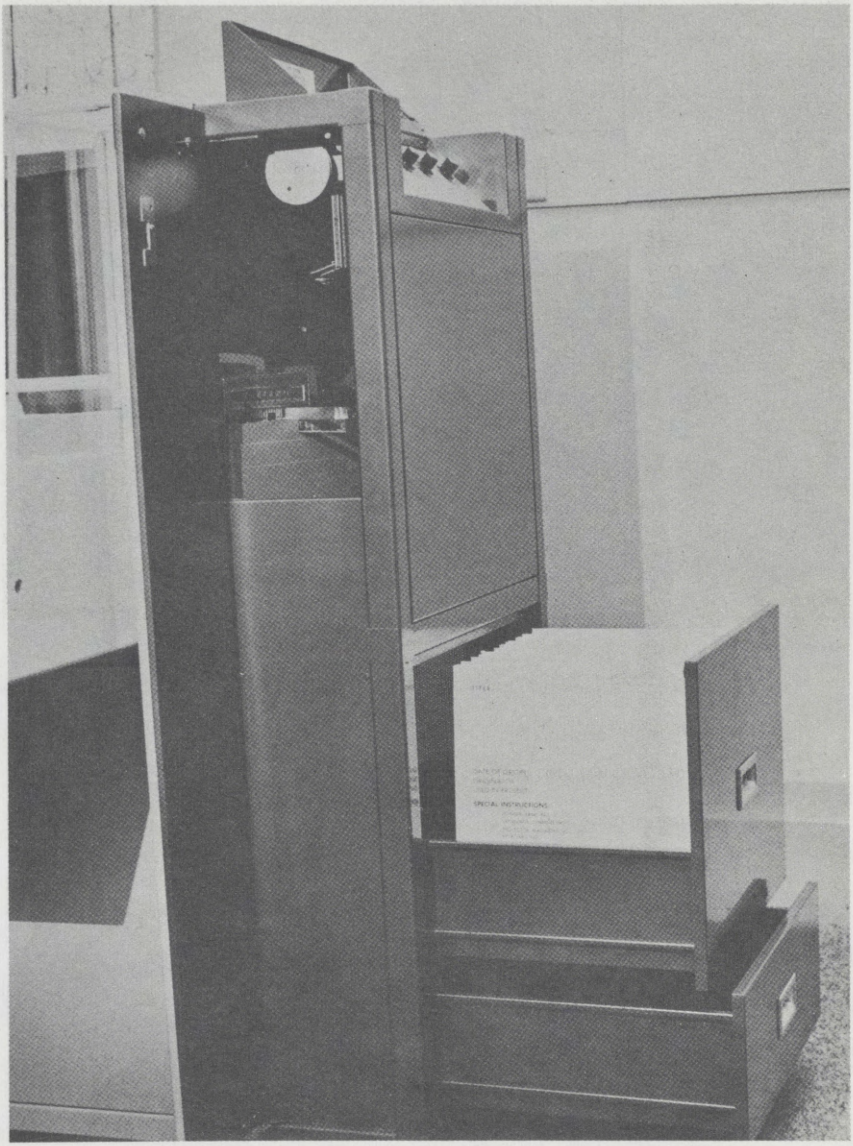
The "Talking Typewriter," (Figure 1) more formally known as the Edison Responsive Environment, is a self-contained learning system which for the past seven years has moved through four major design stages incorporating a series of advances in educational and engineering technology. The system is designed to teach the basic verbal skills of any language system.

In a sound-proof booth which has one-way observation windows, the learner is confronted with two visual systems and two audio systems. Responses are made by typing and speaking. When the learner types, his printed response is visible on the typewriter paper. Spoken responses can be recorded and then played back with the student's words compared to a model recording.

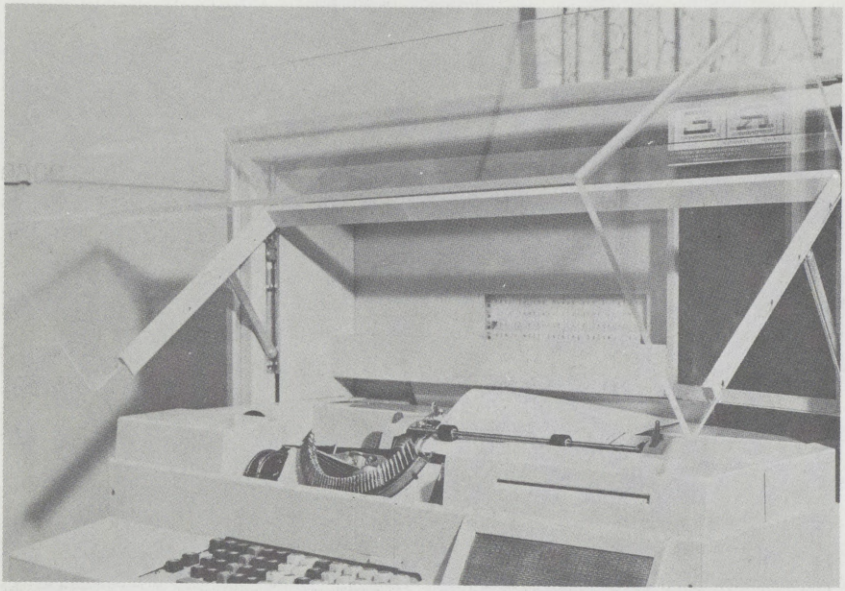


In one community, a total learning system employs 20 "Talking Typewriters." (Figure II) The booths are arranged so that they create a laboratory enclosure. Visitors observe from outside the enclosure.

Outside each booth is its own control panel. Monitoring equipment keeps track of the number of strokes the learner makes on the typewriter keyboard and the time spent in each session. A telephone intercom hook-up is part of the monitoring equipment. The booth attendant can listen or talk to the person within.

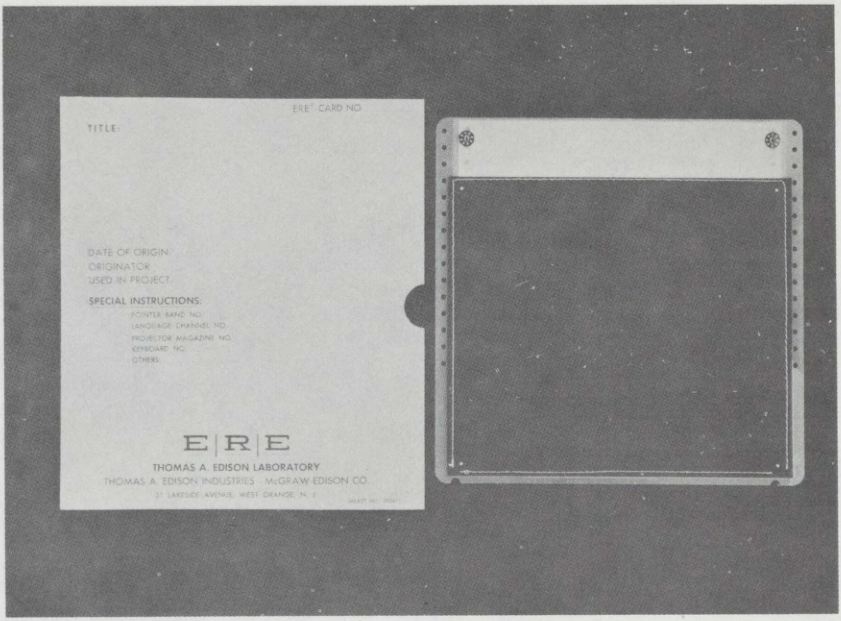


An instrument control panel can be adjusted to (Fig 111) control relations between stimuli, responses, and the internal automatic controls appropriate for each phase of learning. The "Talking Typewriter's" 35 mm projector can store up to 100 slides at a time. In a drawer at the bottom of the cabinet, program cards are stored.

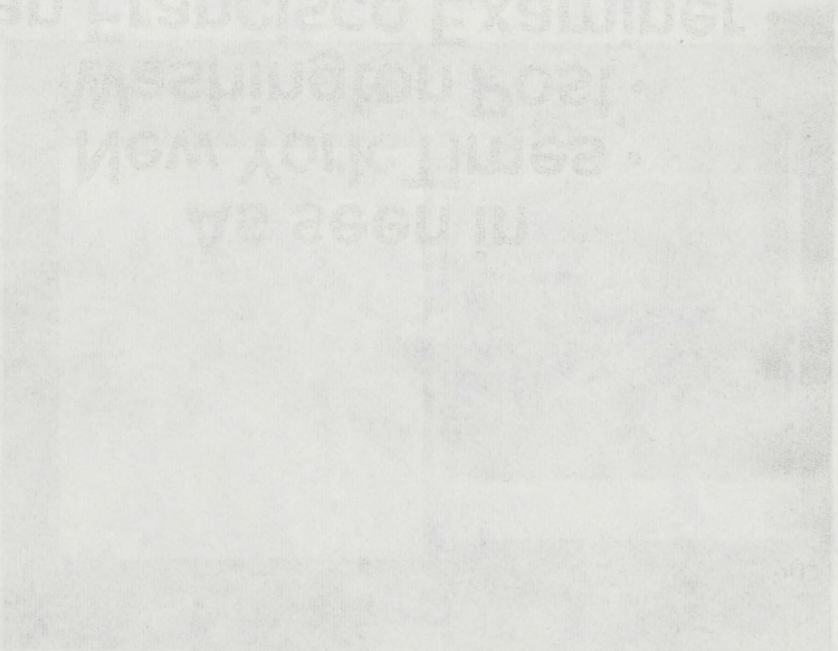


The person within the booth can be exposed to two synchronized visual systems. (Figure IV) The screen on the right can show an illustration from a familiar story book taken from the classroom library. In the window in the center, the program card moves into view to present printed information corresponding to the picture shown. A sliding window, with pointer, can restrict initial exposure of this printed matter to a single letter at a time. When one wishes to present more information, the words can be exposed in a cumulative fashion, with the red arrow moving across the page from left to right. At a later stage, a complete line can be exposed. It is also possible to present four lines simultaneously.

Letters struck on the keyboard are printed on the fan-folded tape of paper which feeds from a space below where 1800 sheets are stored.



Complete program sequences (Figure V) are available at Responsive Environments Corporation. For research, clinical or other special purposes, customized programs can be developed. Local modifications of R.E.C. programs can be made by teachers who can add material made up by the children themselves. Slides made of children's drawings can be used to illustrate these individualized programs.



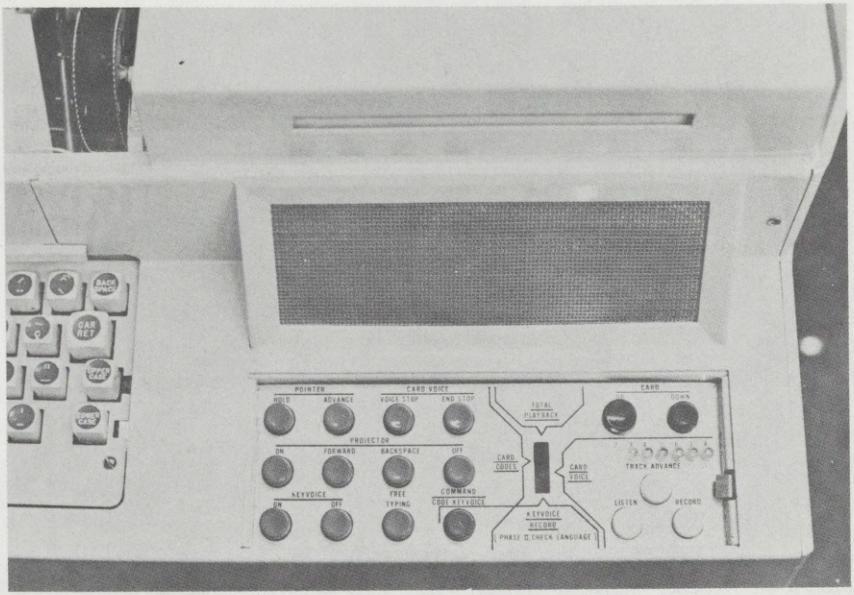
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Washington Post •
San Francisco Examiner •
Chicago Tribune

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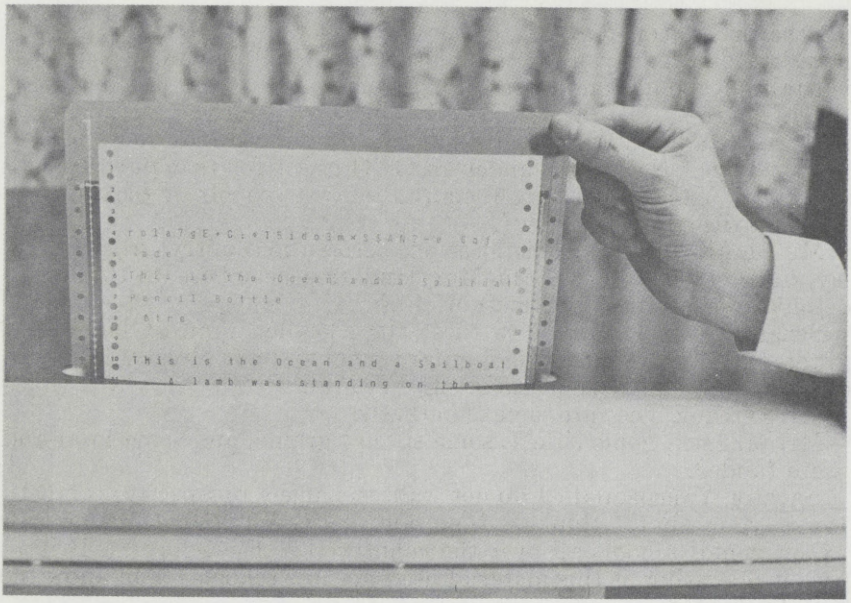


When a child first comes to the "Talking Typewriter," it is set so she can explore the keyboard freely. (Figure VI) Whenever a key is struck, the E.R.E. types the letter and pronounces the name of the letter. At the end of every line the typewriter carriage returns automatically so that the child cannot get stuck. The keyboard is color-coded to assist in locating letters when they begin. The audio system associated with the keyboard has six different channels available and can be used to teach foreign languages. The keyboard also has a special patented device that prevents errors. In the programmed phase, all incorrect keys are blocked. Only the correct response can be made.

After an orientation session, children soon work independently exploring the responsive possibilities of the "Talking Typewriter." When a session is over, two copies of the child's typed paper are removed from the machine. One copy is given to the child and can be taken home to show parents. The other copy is kept in the laboratory as part of the cumulative record. This printed sheet tells the teacher what the child has accomplished in the session and can be used as the basis for classwork.



Programs are encoded directly on the machine itself. (Figure VII) Encoding the detailed sequence of each lesson and recording the verbal instructions are simple operations using the typewriter keyboard and the adjacent program panel. Teachers assistants or booth attendants can easily be trained to do these operations.



Each program is prepared on a special card that fits into the "Talking Typewriter." (Figure VIII) The front of the card has 15 lines for typed information; associated with each line is up to 80 seconds of audio recording time. On the magnetic sheet at the back of the card, the codes are stored which determine the step by step sequence of lesson. Each card has the capacity for storing up to 20 minutes of spoken material and over 900 coded lesson steps. A complete twenty minute session can thus be contained on a single card.

The "Talking Typewriter" learning system is available now, with a growing library of programs. It can teach the basic skills of reading, writing, listening, transcribing, and verbal composition, which build the ability to communicate in any language.

Senator YARBOROUGH. Mr. Chairman, I would like to ask a question here. Tell me, have you got these installed someplace now? What were you talking about, Long Island, what places?

Mr. MARTIN. The largest installation for the large-scale operation that we are advocating is in Brooklyn run by the Board of Education of the City of New York under an OEO grant for that purpose.

Senator YARBOROUGH. How many different schools or locations do you have them installed now?

Mr. MARTIN. Oh, 20-some locations across the country, from Berkeley, Calif., to Chicago, to the Maryland area near here, to the Philadelphia area, up through New York State.

Senator YARBOROUGH. Are these the so-called type of laboratory grants? Are these under the regular school systems already installed, or are they some experimental laboratory grants?

Mr. SPECTOR. They are some of both, sir.

Mr. MARTIN. Some title I, some special grants, and some local and State funded.

Senator YARBOROUGH. I do not want to name a prospective competitor of yours, but I think, is there any in these two or three or four experimental schools all over the country that Encyclopedia Britannica is operating, is this material used in those schools? You know the ones I refer to?

Mr. SPECTOR. We know the scope.

Senator YARBOROUGH. This is where it is entirely 100 percent programed with electronic equipment. Have you gentlemen in this—have you—do you feel that you have it completely developed now for the English language, or are you still experimenting?

Mr. SPECTOR. It is completely ready. It is operational. We are delivering systems to various customers now for on-line daily use.

BILINGUAL APPLICATION

Senator YARBOROUGH. Have you given any thought to the bilingual development, Spanish-English development?

Mr. MARTIN. Our research staff are currently working on it. They are working on the hypothesis that the bilingual nature of the Puerto Rican, Mexican-American population of this country are prime potentials for this type of educational technology.

Senator YARBOROUGH. In my State that is the highest rate of dropouts and the earliest rate of dropouts. It is far more difficult than the problem that the Negroes have or any of the others, the whites in the less advantaged areas, the poor whites.

Mr. MARTIN. I personally obeserved in this Brooklyn project a Puerto Rican non-English-speaking child moving with high dexterity with this system. The common procedure in America's culture is for the child to learn his family tongue at the kitchen table and his English-language capacity, for whatever it is, in the street, and so the best that occurs under the circumstances is the 5-year-old comes to school with a sort of mongrelized incapacity in both tongues. This dual conflict of language is an impenetrable barrier, given the conditions I previously indicated. We have sufficient evidence here in very small numbers, but the remarkable nature of the success makes us quite

certain that in a large scale you can break down the language barrier with considerable ease.

Senator YARBOROUGH. In the Southwestern States where there is the largest Spanish-speaking population in Texas, New Mexico, Arizona, California, and Colorado, about a million and three-quarters of these children, it is too late, and it is the highest dropout rate we have in the country because they come to school just as you have described it, with a kind of mongrelized speech. And with this language the Texans say it is not English, the Mexicans say it is not Spanish, they are the dropouts and the teachers cannot handle the mix. I have had people tell me that though they are not given a standardized English IQ test, but one that really tests IQ's, that these children are really sharp, can do well if they could overcome that language barrier.

Mr. MARTIN. Our experience is that we care nothing of the child's background short of institutional, physiological, severe situations. We have dealt with mentally retarded children and I have personally conducted research in that area in operational use of this equipment with mentally retarded children. The Brooklyn project has involved children of all ethnic backgrounds, including Spanish-speaking Puerto Ricans, and we have had a great deal of success as indicated here.

May I ask Mr. Kobler, who is the prime scientist in the development of this equipment, to speak to you just for a few minutes if you would like to hear him. He is filled to the explosive point.

STATEMENT OF RICHARD KOBLER, MANAGER, THOMAS A. EDISON LABORATORIES, WEST ORANGE, N.J.

Mr. KOBLER. Thank you very much. My name is Richard Kobler. I am the manager of the Thomas A. Edison Laboratories in West Orange, N.J.

Mr. Chairman, Senator Yarborough, there is one question I believe that should be answered. I think you have seen here some equipment, at least in the form of slides, you have heard some explanations by both my colleagues, but the question that is still to be answered—and it must be answered precisely—is: Why do these achievements occur? What made them possible?

There are certain simple but great clues as to why this learning system works. I shall mention only a few.

You have heard much today about teachers as well as teacher training. The greatest teacher, to my surprise as we sat here all day long, has not even been mentioned. The greatest teacher of them all is the pupil. There is no greater learning than the learning that you create yourself.

NATURE OF LEARNING PROCESSES

Now, it is admitted, I suppose, that on a broad scale there are basically two learning processes. One is, I would prefer to call it, please with your permission, a monastic process: to be alone with your thoughts, to be alone with your problems, to be alone also during the glorious moment when you discover a truth, realize an insight, solve a problem. This type of learning is probably the highest form of learning there is because it depends entirely upon the inner resources of the individual human being.

Now, I draw your attention, gentlemen, to the incredible fact that the greatest feat of learning, never equaled by any adult, talented or not, is performed by children prior to the time they reach their fifth birthday. This single momentous fact that they have learned to talk as a far more difficult task than superimposing later on a visual matrix over an already existing acoustical one—commonly called reading and writing. This feat—talking—occurs in the ghettos, not only in America, but in the bushlands of Australia and Africa, and, of course, in the apartments of Park Avenue, New York; all human beings talk. All of them. This method has never failed. And who is the teacher? Well, most people will say mama or daddy or sisters and uncles. That's true. That's all true, but the great teacher in this process is the pupil. The great mystery as to why the human being talks has nothing to do with the phenomena of, for instance, a myna bird saying "table, table, table," and finally even pointing with his beak to the table. No myna bird will ever say, "I am; what is that? Where are you? Welcome," and understand what he is saying. You might train him to say these things phonetically but he will not have the faintest idea what they mean.

Now, this achievement, gentlemen, I submit is the greatest single achievement in learning at any age, and we now have replicated this kind of learning in our technology. You saw earlier a slide showing a little child in a booth, sitting all alone, in front of a ridiculous thing—a keyboard—not a choo-choo train, not a nice dog, not a bear—nothing really. It is something really quite uninteresting, 80 symbols on 50 plastic squares. Interesting to us adults, but, off hand, none of us adults would expect a child to stand this thing for more than 5 minutes; and yet, our children come, and they come voluntarily. The machine does not perform a function unless the child does something himself. He touches one key and the machine instantly pronounces "f," and from that moment on, gentlemen, the child's behaviour is comparable to an addiction, the "addiction to learning." These children go on and on and on, so much so that in 15 minutes most children have put in 300 operations, or 300 questions and answers such as "What are you" with the machine replying, "I am f"; "What are you?" "I am a dollar sign." "What are you?" "I am upper case." This magnificient God-given impetus of the human being performs alone, without anybody smiling at him—and the sugar-coated, false smiles most children get are enough to disturb them in their learning, to say nothing of any spanking, frowning, or other negative discouragement in learning to which was alluded to so often this afternoon. No, I say to you that what you see today—what you have seen only fragmentarily today—gentlemen, is the base of monastic learning that at least for a short period of time per day must be instilled into a human being because he must get "intellectual spine." The trouble with most educators in the traditional sense is that they visualize the pupil with an empty head and a funnel into which the wise adult drops doses of knowledge. This is not so. On the contrary, if I may just have your indulgence for a few more minutes, I must say that the greatest single achievements, the creative achievements also of adults, occur in solitude. It is incredible, it is impossible to visualize, for instance, that Beethoven could have composed his Ninth Symphony in Times Square. He sat down alone. His company were his thoughts and visions. He composed.

Thus, one of the first things we have got to teach a human being is to do things himself, so that he acquires an "intellectual spine." Second, you have got to give him an opportunity to do it not only alone, but to do it at his pace and at his wish. Now, no human being can even start to satisfy this demand in a conventional educational setting. You see, you have all had children, and when a little baby in the playpen, which is not the conventional educational setting of the school system, picks up a block or picks up a bell and starts to play with it, and everybody is gone and you just peek in through the door, you are seeing a child using technology. How long is it that we have had a metal bell at all? It is just 50,000 years ago that we were in the stone age.

Now, another thing, learning to "speak" is part of learning to read. Most children "talk" but do not know the transition to conscious and deliberate "speech." If you say, for instance, "I'm here," or "yes, ma'am," that "yes, ma'am" is one sound. The child does not know that it consists of two distinct words, "yes," "mom," or, "yes," "mother." The transition from "talking" to conscious "speech" is one of the incredible facts of learning, and this is what you see happening in Brooklyn and other places.

The other basic learning process, of course, is "social" learning. Of the two basic processes, I have concentrated so far on the monastic one. I will not be able to cover the topic of "social" learning in today's session since I have been asked by the president of the Responsive Environments Corp. to "cut it short." This is his note.

I shall submit to his demands, and I am sure yours, too, and I thank you very much for listening.

Mr. MARTIN. I gather, Senator, that you——

Senator MORSE. No, I want to accommodate you gentlemen. There are questions that I think you need to answer, and you are already way behind on some other commitments. Can you men be here at 9:30 tomorrow morning?

Mr. MARTIN. We certainly can.

Senator MORSE. All right, you be here at 9:30. I cannot stay longer tonight.

Senator YARBOROUGH. I was supposed to be at another place at 5:30. I stood them up for awhile because this was so fascinating.

I just have one question tonight. I may not be here at 9:30 in the morning. I do not want an answer tonight, but an answer in the morning because we are out of time, as you can see. That is, what happens to the child who has gone through this—and I do not want to take the time now—do they then go into conventional school systems with this capability? What happens to them then?

Mr. MARTIN. Senator, we will describe the process of welding this and comparing this to conventional education systems tomorrow.

Senator MORSE. We will see you at 9:30 in the morning.

At this point in the record I order printed all statements and pertinent material subsequently supplied for the record.

(The material referred to follows:)

Word From Washington: How Will "Systems Approach" Affect Role of School Boards?

(By Elaine Exton)

"Do federal initiatives in education threaten to put local school boards out of business?" No, assured Federal Commissioner of Education Harold Howe, when addressing the 1966 Annual Convention of the National School Boards Association.

Contending in his speech on "New Life for the Dodo" that "federal programs properly used can inject new life into school boards," the U. S. Commissioner of Education then said: "Far from wringing the neck of a languishing dodo, they can put new sass and feathers on the old bird and give us a very lively fowl indeed."

Now some astute Washington watchers are asking: "Is America on the verge of a totally new legal structure for public education?

This question is prompted in part by the recent U. S. Office of Education attempts to apply the systems approach to public education through financing the development of Educational Policy Research Centers and by the flowering romance between the Office of Education and big industrial companies which—if the views of some present and former Office of Education officials prevail—may induce business to help run the public schools, either under contract with a school board or some other government agency.[1]

To facilitate this "innovation," a federally-financed search already may be underway to find alternatives to the school board, which eventually might relieve them of their responsibilities leaving them only an advisory role.

ALTERNATIVES TO SCHOOL BOARDS SOUGHT

For example, a study to make a "systematic exploration of logical alternatives to the school board—[which] include possible modifications of the basic form of the school board"—is part of the application to design an Educational Policy Research Center, which won an Office of Education Cooperative Research contract for the Western Behavorial Sciences Institute, LaJolla, California.

Describing this part (Phase II) of their proposed study of the "Future Role of the School Board," the institute's application states:

"We will interview panels of individuals from the following groups: teachers, students, school administrators, parents, teacher trainers, legislators most concerned with education. American Federation of Teachers and National Education Association, and organizations in the forefront of industry and technology, especially those that are becoming involved with education as contributors and competitors. We will ask two basic questions of these panels:

"1. Given the present socio-political, technological, and other changes in our world, and in view of the already-predictable directions of change in the future, what modifications of the present school board system, or alternatives to replace it, can you think of?

"2. What effect would such an alternative have on the school system? On our society? Our world? That is, what would the school system and the society of the future look like were this alternative to be accepted?"

As explained to this reporter, the study also would delve into such questions as:

How effective are school boards in implementing the goals of public education? Do they facilitate or block them?

Are school boards the most useful structure that can be used in administering schools or are other structures more useful for whatever the goals happen to be?

What would happen if business firms like Bell & Howell or IBM were given a contract to run a school for five years? If this could be done, how would you do it?

Will this part of the study, which would undermine the historical prerogatives of school boards, be financed through the U.S. Office of Education's contract with the Western Behavioral Sciences Institute?

No, say David Goldberg and Hendrik Gideonse of the OE's Bureau of Research—headed by Dr. R. Louis Bright, formerly director of instructional technology at Westinghouse Electric Co. in Pittsburgh—who maintain this project has been changed to "a survey of the literature."

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[1] For additional information on the U.S. Office of Education-Business partnership, see "Will Profit-Oriented Industries and Uncle Sam Determine What's Taught in American Schools?" in the September, 1966, *American School Board Journal*.

Yes, said the study's director, Dr. Thomas L. Gillette, Research Associate with the Western Behavioral Sciences Institute (and a consultant to the San Diego Schools' Compensatory Education Project, who is identified in the application as "known for his extensive work with minority groups and with cultural deprivation").

"We are still in the early stages of development of a sophisticated methodology," Dr. Gillette told this reporter in a telephone interview early in June, in which he confirmed they would carry out this survey.

Maybe, suggests Dr. Gillette in a follow-up letter of July 26. Compounding the confusion, he writes: "At the present time the school board study as presented in the USOE proposal has been deleted." [*Note:* This may refer to the study's Phase I, aimed at determining how school boards function by observing school board meetings and getting by "random sampling" the degree of consensus between board decisions and the attitudes, values, and wishes of the community.]

"Also," Dr. Gillette's letter continues, "there has been a modification in the larger design of the project which I am unable to report to you at this time. However, *the role of the school board in public education remains of great interest to us and we will definitely be examining it as we pursue the development of the Policy Center.*"

Technically it appears possible for such school board studies to proceed without Office of Education approval under the terms set forth in its request for policy research center proposals.

After listing 28 topics as "illustrative of the types of questions which the operational [educational policy research] centers would tackle," the Office of Education's request for proposals states: "In actuality, the specific topics will be determined jointly by the centers and the [OE's] Bureau [of Research] on a 40%–30%–30% basis. That is, 40% of the center's time will be devoted to subjects suggested by the bureau, 30% to subjects jointly agreed upon, and 30% to subjects initiated solely by the center."

The primary task of the "up to five" pilot Educational Policy Research Centers to be supported with funds made available under Title IV of the Elementary and Secondary Education Act (P.L. 89–10), the OE's bid for proposals states, "will be to (1) undertake a limited number of policy studies and then, on the basis of the emerging experience, (2) design a model operational center."

Their main work, as set forth in this federal document, "would be to analyze future educational needs and resources and, in light of these analyses, provide educational policy makers at all levels with relevant information and techniques for decision-making." Thus, the USOE announcement comments, "in Gabor's terms, they will be '*inventing*' *alternative futures* and mapping out the paths necessary to reach them."

In general, the USOE prospectus explains, "The centers will address themselves to four major questions:

"1. What will the social functions of the school be in the future and how might the school begin preparing for them now?

"2. What ought the curricular objectives now and in the future be?

"3. What technologies will be available to the school of the future and what are their implications for the school today?

"4. What economic and political resources will the schools need in the future and how might that effect their planning at present?"

"Or, to put it in broader terms, what are the policy implications of the revolutions in cybernetics, population growth, civil rights, urbanization, segregation, communication, information retrieval, industrial organization, automation, material abundance, nuclear weaponry, space explorations, interpersonal relations, etc.?"

One of the criteria for judging the center proposals is the "existence of cooperative links between proposed center and relevant organizations (e.g. local school system, university, state education agency, regional laboratory, education industry, military)."

A further USOE stipulation is that the proposals must "include an imaginative plan for the widespread dissemination of [the Center's] findings" which envisions "a wide range of techniques and approaches, e.g., public seminars, talks, debates, and conferences; magazines, books, pamphlets, and news releases; films, slides, displays, simulations, video tapes; training sessions, briefings, and personnel exchanges."

"Where approriate," the OE proposed request continues, "these activities would be mounted in conjunction with the [Office of Education's Research] bureau's dissemination program, ERIC, and the dissemination activities of the Regional Laboratories."

To man these future-oriented centers, the OE's prescription states: "The staff

should consist of approximately 15 full-time professionals, drawing on educators; city planners, architects, physicians, scientists (physical, biological, and social), journalists and writers; social critics, artists (used in a generic sense), engineers, representatives from foundations and government; technicians, students, businessmen and industrialists; community activists, politicians, etc."

THE "PILOT" OPERATION

In addition to the Western Behavioral Sciences Institute (Richard Farson, "Center" Director), the four other "think tanks" which have received USOE contracts of about $110,000 each for a nine-month period, beginning in June, to follow these Office of Education instructions for "pilot" Educational Policy Research Centers—and their directors—are:

Stanford Research Institute, Menlo Park, Calif. (Willis W. Harman, Dir., and senior systems analyst with the institute's joint engineering-economic systems program).

Systems Development Corp., Santa Monica, Calif. (Marvin Adelson, Dir. and principal scientist and program manager for the corporation's Civilian Manpower Development and Utilization Program, a former U.S. Air Force consultant and systems expert with Hughes Aircraft Corp.).

Syracuse University-General Learning Corp., Syracuse, New York (Professor Thomas Green, Dir.).

National Planning Association, Washington, D.C. (Leonard Lecht, Dir. and head of NPA's Center for Priority Analysis).

On the basis of performance, two or more of these pilot Centers will be picked to continue their work on an expanded scale as "operational centers" with long-term USOE contracts. Under the OE-proposed timetable progress reports are due from the five pilot centers in December, 1967, and the operational centers could be selected and underway before the new session of Congress starts.

SYSTEMS ANALYSIS OF EDUCATION

A significant characteristic of all five OE-requested pilot centers is that they would apply industry's (and the Defense Department's) new techniques of management analysis—the so-called "systems analysis approach"—to achieving the "best" solution of present and future education problems.

What is mean by "systems analysis, in the simplest terms," explain Richard Reeves in his article on "U.S. Think Tanks: $2-Billion Industry" in the June 12, 1967 *New York Times*, "is a method of analyzing a problem by listing the desired objectives and available resources, then determining the alternative methods of using those resources to gain the objectives"—as a means to picking the "right" alternative.

A key question is the extent to which the systems management techniques developed by industry and reported to have worked well in a strict chain-of-command organization like the Department of Defense can be transferred to American public education without losing the prerogatives accorded to the states by the U. S. Constitution.

Can these new systems analysis and management methods be applied to public school problems without so restricting and directing the policies of school boards that independent thinking gradually will be eliminated?

Under the programing, planning, budgeting systems [2] approach, who will set the goals of education, identify the alternatives, and choose "the right" alternative to reach them? With our exploding population growth, the exploding mass of information, and other complexities in American life, wouldn't the federal selection of the priorities to be funded prove irresistible in persuading school boards to prefer the national goals and alternatives identified by the HEW Department's PPBS planning?

In every region of our country hasn't there been a distinction drawn by state and local educators between the goals of their state and local school systems and the national goals for education? Would this distinction be protected or invaded by the USOE-sponsored Educational Policy Research Centers? Might not these centers, in time, become a mechanism through which, intentionally or unintentionally, the future course of education in every community could be determined through the OE's subsidization of research?

Will the educators experienced in elementary and secondary schoolwork con-

[2] For a more detailed description of recent developments in applying systems analysis techniques to education, see "Federal Program Budgeting Is a Step Toward Centralized Education Planning" and "New Planning-Programming-Budgeting System of HEW Department," in the November and December 1966 *American School Board Journal* as well as "U.S.O.E. Uses Computer-Based Models to Evaluate Education" in the January 1967 issue.

tinue to make the decisions on the techniques and methods to be used for education purposes? Or will some elite group of academicians, researchers, and managers—outside the public school establishment—assume this responsibility in the Regional Educational Laboratories and Policy Research Centers?

The systems approach, moreover, as Richard Reeves writes, "also involves looking at a problem as a whole and dealing with the interplay between parts of the problem as well as with the parts themselves." This in turn requires an interdisciplinary staff.

The personnel "mix" carrying out the policy studies for the OE-funded Educational Policy Research Program is heavily staffed with present and/or former college faculty members and systems and operations analysts from private industry and the armed forces.

Experienced public school administrators and teachers are distinctly in the minority compared to the behavorial scientists, the psychologists, the sociologists, and the economists who constitute the pilot centers' work force.

While the Systems Development Corp., Stanford Research Institute, and the Western Behavorial Sciences Institute are largely depending on the systems capability already on their staffs to develop these OE-financed projects, the National Planning Association and Syracuse University are supplementing their resources through ties with other agencies.

The NPA's pilot study of "The Implications of Social and Economic Changes for Educational Policy in the Next Two Decades" will be carried out in association with a group headed by Dr. Gabriel Ofiesh, Director of the Center for Educational Technology at Catholic University, who as an Air Force colonel in 1965–66 was director, Training Methods Study, Office of the Assistant Secretary of Defense (Manpower).

This arrangement, the NPA's project application notes, "would add research competence in education to NPA's experience in economic and social research."

The proposal submitted by the Syracuse University Research Corp. on the other hand, points out that "the General Learning Corp., whose energies are directed primarily to the development of new techniques and new learning materials for education, will also contribute systems analysis and synthesis capability to the modeling activities of the [ir] pilot center."

Under this plan, former U.S. Commissioner of Education Francis Keppel—now chairman of the board of the General Learning Corp. established by Time, Inc., and the General Electric Co. to design and market systems of educational materials and services in this country and abroad—is a member of the executive board of the Syracuse University-General Learning Corp. pilot center.

"The planning of the Permanent Policy Research Center will be the direct responsibility of Dr. Aaron Nadel," associate director of General Learning's Educational Division, who previously was a professional staff member (psychologist) with General Electrics think tank in Santa Barbara.

FUTURE-ORIENTED ACTIVITIES

In its proposal to form an interdisciplinary task force "to carry out predictive and prescriptive studies focused not only on understanding the probable future, but on projecting desired and desirable futures," the Western Behavorial Sciences Institute points out, "The most serious and unavoidable problem with predictive studies is this: *by the very fact of predicting the future, they help to determine it.* The projections they create will be, to a great extent, self-fulfilling prophecies * * * *Prediction is, inevitably, prescription.*"

Yet, predicting the future is exactly what most of the studies of the OE-sponsored Educational Policy Research Centers are set up to accomplish. Since space does not permit providing detailed presentations of their various approaches, here are some examples.

As part of its effort to develop "an evolving strategy for inventing futures," the Systems Development Corp. is engaged in "forecasting the possible social and educational futures in which educators will perform their functions" in 1988 and then describing the associated roles of teachers, counselors, and administrators which are appropriate for each of the projected futures.

One of the "studies of the future" proposed by the Western Behavorial Sciences Institute calls for designing a simulation game as a tool for educational planning in which participants—including school board members—serving as decision teams of various types "will 'play' their community's educational system into the future for 20 to 50 years."

These participants, the WBSI project application states, "will confront such 'reality constraints' as change in economic factors, technological innovations,

political realignments ranging from liberal to conservative, and sociological and demographic changes emanating from a WBSI model of some future environments which might confront the community with changes in the decision-making power base within the school system—changes in the roles of administrators, teachers, students, and community leaders."

The Syracuse University-General Learning Corp. proposal conceives the function of an Educational Policy Research Center as threefold:

To specify alternative possible future states of the educational enterprise.

To assess alternative plans of action open to the policymaker.

To disseminate the results of such studies to individuals, groups, and organizations in a position to influence the rational formulation of policy.

What would be the social cost if schools were operated on contractual bases by private corporations using public funds? What would people actually do if tax funds were used directly for pupil tuition rather than for school district support? Can the educational pattern of the future involve a genuinely free market of educational choices to the consumer? These are some of the questions to which the Syracuse University-General Learning Corp. application says its OE-financed center "must address itself."

Two research projects have been selected for prosecution during the pilot center period: "The New Politics of Local Education: A Study in the Formation of Policy and Control of Schools," which "will focus on well developed local lay groups in five major cities, Chicago, New York, Philadelphia, Boston, and Los Angeles." (Professor Thomas F. Green is chief investigator).

"The Learning Force: A Statistical Analysis and Projection (conducted under Professor Bertram Gross) through novel conceptual and statistical devices, will develop a new formulation and projection of the total education market."

A preliminary statement of the concept, the application states, will appear in a chapter by Wilbur Cohen, deputy secretary of the Department of Health, Education, and Welfare, in the September, 1967, issue of *The Annals* on "Goals and Indicators for American Society" (a bi-monthly publication of the American Academy of Political and Social Sciences).

THE ROAD AHEAD

A report of Congressman F. Bradford Morse (R., Mass.) on the Lockheed Aircraft Corp. venture into the education planning may give a preview of what can happen to the policy-making function of American school boards if the systems analysis approach to educational improvement is superimposed on them by OE research grants and contracts with agencies and organizations outside the existing legal structure of public education.

In an article in the March-April 1967 issue of the *Harvard Business Review*, reprinted in the *Congressional Record* of April 6 (Pages S4701 to S4705), Rep. Morse writes:

"Staring from the inarguable premise that education, manpower, and capital investment are key elements of economic development, Lockheed prepared an economic model for the Dominican Republic, emphasizing the changes in gross national product that could result from various approaches to a national education system.

"Using systems analysis, the aerospace firm tested various combinations of educational, motivational, and health factors, technological requirements, and labor requirements. The result will be an educational and vocational training package designed ultimately to stimulate additional capital investment in a country with an improved labor force."

And that's not all! Peering into the future, Rep. Morse predicts "It is conceivable that the potentially enlarging 'public market' will mean more than government contracts and loans to American industry." In illustration, he recalls: "Many commentators have speculated that private firms in the future might operate even such traditionally public services as refuse collection and educational institutions on a for-profit basis.

"To accomplish this revolution," he points out, "there is increasing interest in turning to the companies that have developed effective management tools for the space and defense fields and using these techniques for the solution of nondefense problems." But, as Rep. Morse admits: "It will involve an altered relationship between business and government. It will mean changes in the governmental structure at all levels to accommodate multi-disciplinary programs."

Could there be a relationship between this vision, expressed by Rep. Morse, and the fact that there is a line item in the budget the OE submitted to Congress which would permit it to contract with private industry for research and development and operation of education programs?

PROPOSAL FOR SYSTEM ANALYSIS STUDIES IN PUBLIC EDUCATION

II. ABSTRACT

Title of Project: Educational Policy Research Center.
Principal Investigator: Richard E. Farson.
Contracting Agency: Western Behavioral Science Institute, 1121 Torrey Pines Road, La Jolla, California.
Federal Funds Requested: $145,316.00.
Proposed Beginning and Ending Dates: June 1, 1967 to March 1, 1968.

Objective.—The purpose of this study is to engage in several pilot research projects, covering a variety of problems in educational policy, and on the basis of that experience to design an Operational Policy Research Center which would provide educators at all policy levels with information about the future with implications for education, so as to assist them in their planning in both the short and long range.

Contribution to education.—The accelerating rate of change in technology, in social and political institutions, in the human condition itself, makes it increasingly important for policy makers to have a continuing flow of useful information about the future to help them make the necessary modifications in the educational system so that it becomes relevant to the changing patterns of life in the society in which it is embedded and which it serves.

Description of the project.—An interdisciplinary Center Design Group will be composed of the directors of the following policy studies and other systems-oriented members of the WBSI staff to coordinate the studies and to develop a comprehensive design of an Operational Policy Research Center:

Study I. Economic Consequences of Changes in Educational Policy: A study in resource allocation.
Study II. Simulations as a Tool for Educational Planning for the Future: A feasibility study.
Study III. Future Role of the School Board.
Study IV. Predictive Study: Attitudes and Values of Future Decision-Makers.
Study V. The Future: Focus—The Human Condition; Format.—A T-Group Conference Technique.

Appendices include descriptive materials about WBSI, selected papers on the future of education by staff members, lists of organizations served by WBSI, vitas of personnel associated with this project, and letters of support from individuals and organizations who can comment on the work of WBSI and give evidence of willingness to cooperate in Center activities.

III. PROGRAM

Introduction

It is difficult for us at WBSI to imagine a program of work more attuned to our interests and abilities than the program outlined in the U.S.O.E. request for proposal for Policy Research Centers. Curiously, though, this has not made it easy to write a proposal for something new, because to a remarkable degree WBSI already is such a center. On every essential—goals, management methods, experience, contacts, interest, efficiency, structure, staff composition, communications approach—our present program seems to us to reflect the criteria described in the request. So to a certain extent, in this proposal we will be discussing what we already are, as well as what we want to become.

To begin with, WBSI was established primarily in order to undertake interdisciplinary research, and our present staff is drawn from the fields of psychology, sociology, political science, economics, mathematics, education, philosophy, systems analysis, and mass communications. It includes some of the pioneers in group dynamics, organization theory, and modern concepts of management.

We have tried from the beginning to apply what we know about interpersonal relations to the operation of our own organization. As we said in our 1962 brochure (see Appendix A), we believe that "an organization is healthier and its people more productive in an atmosphere which allows each person to expand his influence on what the organization does, which develops trust and security among all, which increases the scope of each or expands his job as his ability and experience grow, in which status is divorced from pay and in which the fulfillment of each person's potential is considered important to the growth of the organization."

WBSI's original interest was centered on human relations and the dynamics of change, but as our staff and resources grew, we widened our interests to include studies of international conflict, philosophy of science, poverty, education,

and the future. We came to realize that, to a great extent, it lies within our power today to create that future, and second, that there must be radical changes in the educational enterprise if we are to prepare the high school graduates of 1984 for the world they will enter. Whatever else that world will be, it will be a world in which *change* is the only constant. To live happily and successfully in such a world, people will have to be educated in new ways, ways that enable them to accept and enjoy change, to be flexible, problem-solving, and above all, self-determining.

Included in Appendix A are descriptions of WBSI which give evidence of our long-standing interest in education and in studies of the future.

WBSI's philosophy.—It is probably true that we can be distinguished from most research organizations by our view of man, of the problems facing mankind, and the means for solving them. The main thrust of our work is an attempt to understand how to liberate the potential human resources that exist in any group of people—resources that can be utilized to produce self-determined solutions to the problems that beset them; i.e., the very population that presents a social problem may be the greatest resource for the solution of that problem. We want to tap those resources. We believe that the aim of the behavioral sciences should be to understand the forces that shape human behavior; that based on such scientific understanding, urgent social problems will yield to responsible action.

We believe that the goals of education are inseparable from the major problems facing mankind—control of the physical environment, with its enormous potential for good, is accompanied by the dangers of exploding population, international conflict, and the threat of a mechanized, dehumanized society. The most urgent problem facing education, therefore, is innovation. New methods, new approaches, and a new view of educational goals are essential. Change is at the heart of the educational process; the primary task of education is to understand and use the methods that encourage constructive change in individuals and in society.

We operate in the context of particular assumptions about man: That research on people must be grounded on a view of man as a thinking, feeling, experiencing individual, not as a "thingified' product of forces completely controlled by unconscious or external stimuli; that there are inherent and reliable resources for health and growth within each individual, within groups, and within society itself; and that the goals of education, at all levels, should be to liberate these resources for constructive change. We believe that human nature is not fixed or unchangeable but that, on the contrary, the human potential for change is great.

Approach to this project.—We see the initial nine-month's study as being divided into two major sections, (1) pilot studies in educational policy; and (2) the design of an Operational Policy Research Center.

The specific studies are described in detail below. Each study will be headed by a member of our staff; each study was proposed by the study director in accordance with his special interests and competence. All the resources of WBSI will be available to the pilot projects, as well as access to the outside resources which are available through the Institute (described in Section IV of this proposal). Each of the teams will meet together regularly to share their problems and findings, to plan a joint report of the work done during the nine-month period, and in particular, to share their experience as they relate to the problems of designing an Operational Policy Research Center. Thus one of the purposes of each pilot project will be to explore the overall problems of educational policy research.

Purposes and objectives of pilot studies

The objectives of the six pilot studies described below are two: First, to answer the questions posed by the specific studies themselves; and second, to gain the necessary additional experience in educational research to develop a sophisticated design for an Operational Policy Research Center. We are deliberately including problem areas and research methods which are new to us, and which will improve our ability to develop a *comprehensive* design for a Policy Research Center. We feel that such a Center must not be narrowly conceived along lines of research already well established in our Institute.

It was our intent, in selecting these specific questions for pilot research, to probe into diverse areas of concern, and to use a variety of techniques. While all the studies will include quantitative methods and scientific controls where appropriate, one study is highly mathematical, involving linear programming; another, more observational, is based on semi-structured interviews; another uses simulation techniques; another group dynamics methods; and still another will involve members of the study's target population as co-researchers.

Nevertheless, though the studies and approaches are varied, all fit into a larger research framework based upon the following assumption: That changes in education are brought about by one or more of three forces—*invasion*, *rebellion*, and *planning*. "Invasion" denotes external forces such as technology, the pressure of Federal government programs or of industrial activities, socio-political pressures, and economic and demographic changes. By "rebellion" we mean those forces for change operating from within; e.g., student protest-movements, the establishment of student-run "Free Universities" and "underground" student publications; teacher protests, strikes and unionization programs. The third force for change, "planning," embraces self-determined change in which all—or important—segments of the educational enterprise engage in effective long-range planning and implementing change, and may emphasize one or more of the new social technologies such as simulation, systems analysis, intensive small-group processes.

We decided to mount pilot studies in each of these areas in order to sample, in the most comprehensive way, the kinds of policy questions that the educational enterprise is likely to encounter in the future.

The following pilot studies will be undertaken, and are briefly described below:

Study I. Economic Consequences of Changes in Educational Policy: A study in resource allocation.
Study II. Simulations as a Tool for Educational Planning for the Future: A feasibility study.
Study III. Future Role of the School Board.
Study IV. Predictive Study: Attitudes and Values of Future Decision-Makers.
Study V. The Future: Focus—The Human Condition; Format—A T-Group Conference Technique.

Study I. Economic Consequences of Changes in Educational Policy: A Study in Resource Allocation

(Study Director: Tore Tjersland)

After national defense, the largest single category of public expenditures in the United States is for education. Support for education comes almost entirely from state and local taxes; of the $19 billion spent in 1960 for public education, only $1 billion came from the Federal government. The pressures on the educational enterprise are increasing: one factor is simply the rise in population, but the demand for higher education as a right is widespread; there is an apparent increase in desire for additional or supplementary education by other groups—professionals, housewives, older people, the socially and culturally disadvantaged, and the technologically unemployable.

There is also evidence that our attitude toward the educational enterprise is changing. New technology and changing demographic patterns coupled with spreading dissatisfaction with current educational content and methods at all levels, may well induce a demand for education and training resources much different and far in excess of what is available with the current organization of the American economy. It seems quite evident that these changing demands will require far-reaching changes in all aspects of educational policy.

Because education occupies so important a place in the U.S. economy, however, it is clear that changes in educational policy including changes in the method of financing, will have an important impact on the economy, national as well as local. In particular, alternative educational policies will have differential effects on the various sectors of the economy which are implicated, directly or indirectly, in education. To take a very gross example, it is interesting to speculate what the consequences would be throughout the economy were all universities to be shut down. Or were higher education to become the province of private industry as a profit-making enterprise.

But at present, we have no way of answering such a question; all we can do is speculate. The above example is, of course, extreme. But we may well ask what the consequences would be for *all relevant sectors* of the economy should teaching machines and audio visual aids reduce by two-thirds the number of teachers needed. Any such alteration in educational policy would be followed by an increase in demand for some products, e.g., all the materials and skills involved in manufacturing teaching machines, and a decrease for others, e.g., all the factors—from wood-pulp to advertising—involved in text-book publishing. The disemployment of teachers would result in lowering local retail sales, reduced purchases from suppliers, housing vacancies as teachers moved elsewhere. This chain reaction would continue until all industries which have contributed either directly

or indirectly to education and to those involved in education, have suffered some economic loss.

Thus, if the transition from one educational policy to another one is to be satisfactory, it is essential that there be advance knowledge of what the impact will be, so that sectors which stand to lose substantially by the change can be subsidized or otherwise helped, and so that shortages can be avoided in those sectors which will reap the benefits of the changed demand. In other words, to fully examine the economic impact of educational changes, the total effects of both increases and decreases in final demand must be known.

The purpose of this study, therefore, is to develop a model which will make it possible to measure the economic changes resulting from alternative educational policies. The model will distinguish between the sectors producting goods and services on the one hand, and the education sector and *all* other end-use sectors on the other. To do so, it will be necessary: (1) to identify all income and employment generating sectors related to education; (2) to dis-embed "education" from the input-output tables of the American economy.

The model-building will involve two major operations:

I. Validate the use of existing models for the purposes of this study.

II. Adopt a modified linear programming model to generate a quantitative description of the economic structure of American education.

For the purpose of this model, it will be assumed that the rate of change remains the same as that of the past decade—that is, that the *structure* of the American economy remains the same—but that the demand for education, and the locus of education change, for example private versus public, industry versus public-private, and home versus school.

Input-output analysis will be used to measure changes in final demand, since it is the most precise way to assess direct as well as indirect effect. The first part of the model will make it possible to identify the flow of resources between the education sector and the other use sectors, and to identify the education-relevant income and employment generating groups that are inter-connected with regard to the intermediate goods and services they receive from and supply to one another. The second part of the model consists of the sectors to whom these groups sell their final output of goods and services.

This analysis implies that if a specific level of composition of education, demanded by the final use sectors, is given as a goal or plan, the model would be capable of predicting the total amount and type of economic activity required to meet this goal.

Study II. Simulations as a Tool for Educational Planning for the Future: A Feasibility Study

(Study Director: Hall T. Sprague)

This study is grounded on certain assumptions about educational planning for the future; (1) Communities should have their own educational programs, should plan for them, and as nearly as possible, all members of the community should share in that planning; (2) at present, most community planning is inadequate; and (3) educational planning, in order to be valuable for the future will be inadequate unless the projected educational programs are relevant to the probable future state of the community.

Objectives.—The primary purpose of this study is to see whether simulation techniques can be used by all those concerned with a community's educational enterprise to (a) involve them in planning a program for the future, (b) inform them about major questions facing their system, (c) engage their interest in solving those questions, and (d) facilitate their application of the simulation learnings to educational planning.

Secondary purposes are to serve the school district cooperating with WBSI in the study, and to provide WBSI researchers on this and other studies with valuable information about the nature of the school system which they attempt to simulate.

Procedures.—(1) Staff of this project will work with representatives of a San Diego County School System to collect relevant information about the district, its school system, and known trends which will importantly affect its schooling.

(2) On the basis of this and other information, we will design a simulation of the school district; a scenario (history) will provide participants with an understanding of present conditions, which will serve as the starting point for the simulation; participants, serving as decisionmakers of various types, will "play" their community's educational system into the future for 20 to 50 years. They will confront such "reality constraints" as change in economic factors,

technological innovations, political realignments ranging from liberal to conservative, and sociological and demographic changes emanating from a WBSI model of some future environments which might confront the community with changes in the decision-making power base within the school system—changes in the roles of administration, teachers, students, and community leaders.

Simulation participants will include students, teachers, administrators, school board members, parents, drop-outs, businessmen, and others who wish to take part. Teams will be composed several ways; (e.g., all students, students and teachers, teachers and administrators, teachers taking the role of students, etc.). Tasks of the decision-teams will include negotiation within their own team, with other teams in the simulation; allocation of resources; policy decisions on a spectrum of important problems (e.g., curiculum grading, use of already available and potentially available educational technologies, etc.).

Three to eight teams will participate in each "run" of a simulation; runs may be completed in as little as an hour or may cover eight hours or more, depending on the characteristics of the simulation and on time constraints.

After each simulation run, participants will discusss their experience with WBSI project staff to uncover: (*a*) their subjective experiences during the simulation; (*b*) inadequacies of the simulation; (*c*) better ways to use the technique; (*d*) important questions raised by the simulation; (*e*) learnings gained as to other groups who should participate. Our experience in post-simulation discussions has indicated that some of these topics will lead inevitably into discussion of key aspects of the system being simulated and their probable future development.

The project-staff and cooperating community officials will publicize the entire simulation-project as widely as possible to insure that the community as a whole is aware of the study and of its results.

Since much of the communication within simulation decision-teams, and among teams, will be confined to written message-forms, it will be possible to analyze in a variety of ways the date thus obtained in the course of the play.

After the simulations have been completed, we will assess the effect of the simulation program on actual educational planning processes within the school system. Having gathered baseline data in the first phase of the project, we will then see whether any changes occur in such variables as, for example (*a*) citizen interest in decisions about schools as shown by participation in school board meetings, and amount and decisiveness of such participation; newspaper and radio editorializing; interest in schooling shown by adult groups not directly concerned; (*b*) the perceptions of school administrators as to the most important problems facing their system; (*c*) changes in parent-school, parent-teacher, student-teacher, and teacher-administration relationships; (*d*) the establishment of education-oriented citizen groups, or educational planning activities.

Study III. Future Role of the School Board

(Study Director: Thomas Gillette)

Purposes and objectives

The local school board in the United States is a cultural given. Some think of it as a rural survival or an excruciatingly painful example of cultural lag. Others regard it as the backbone of democracy, the symbol of local control in the fight against encroachment of the Federal government and the destructive forces of a too-rapidly changing society. In any case, it is obvious that the school board today is deeply involved in controversy. It is also evident that the large scale, sweeping changes which characterize contemporary American society are gradually filtering into the educational system and must impinge upon the school board. How will this institution react to social change?

A start at answering this question might be made by investigating two aspects of the total picture: (1) How do school boards function at the present time, and (2) what might be some future modifications of, or alternatives to, the present structure?

Procedures

(*1*) *A critical analysis of the school board and its present role in education.*—At least two contrasting boards will be directly examined, one obviously embroiled in serious conflict within itself and with the community; the other placid and characterized by a minimum of strife.

1. We will observe school board meetings, data relevant to the variety of policy decisions made by individual boards and as far as possible estimate how conflicts are resolved.

2. We would then interview the individual board members to discover as fully as possible why each made a given decision and how he felt about it. This would include an attempt to determine the patterns of influence and the significant reference groups to which each responds.

3. We would then (*a*) determine, by random sampling, the degree of consensus between board decisions and the attitudes, values, and wishes of the community which the board represents; (*b*) identify, sort, and rank specific groups within the community according to class, ethnicity, age, sex, political ideology, and other theoretically-relevant variables, with respect to the level of agreement with the board's decision; (*c*) confront the board members with the results of (*a*) and (*b*) and ascertain whether advance knowledge might have influenced their decisions; and (*d*) determine how such information might affect future board decisions.

4. On the basis of the foregoing, develop a typology of school districts characterized by level-of-consensus between the school board and the various groups within the community.

The findings of Phase I have many implications and applications. For example, we need to know how educational policy decisions are made in order to predict how future educational change will be dealt with. What kinds of groups and values are most influential in determining the course of educational policy? In predicting reactions to educational changes in the future? Do public school boards really speak for the public? For limited interest groups? Questions of this type are crucial for the operation of a school system within a democratic society.

(*II*) *Systematic exploration of logical alternatives to the school board.*—These alternatives include possible modifications of the basic form of the school board. We will interview panels of individuals from the following groups: teachers, students, school administrators, parents, teacher trainers, legislators most concerned with education, American Federation of Teachers and National Education Association, and organizations on the forefront of industry and technology, especially those who are becoming involved with education as contributors and and competitors. We will ask two basic questions of these panels:

1. Given the present socio-political, technological, and other changes in our world, and in view of the already-predictable directions of change in the future, what modifications of the present school board system, or alternatives to replace it can you think of?

2. What effect would such an alternative have on the school system? On our society? Our world? That is, what would the school system and the society of the future look like were this alternative to be accepted?

Study. IV. Predictive Study: Attitudes and Values of Future Decision-Makers

(Study Directors: John R. Raser and Garry Shirts)

From the college students of today will come the decision-making elites of 15 to 20 years from now. Since their decisions will be importantly affected by their attitudes, values and goals, we could gain, today, some notion of the directions their decisions might take had we some idea of what their value-systems will look like a decade hence. Is this possible?

It is generally thought that the values inculcated in the home and during early school years persist throughout the life of the individual. However, Newcomb's Bennington studies (1950, 1966) show that not only are attitudes, values, interests, and belief radically changed by exposure to new ideas in college, but that *these* beliefs and values remain remarkably stable over time. Studies by Strong (1951) and by Kelly (1955) confirm the findings that the value-systems of young adults remain relatively unchanged during the subsequent 20 to 30 years.

In the last 15 years there have been a plethora of studies of college-student attitudes and value systems. However, these studies are by adults and are either subjective and anecdotal, or based on formal questionnaires and interviews. But young people are adept in answering tests and questions and in telling adults what they think adults want to hear—or don't want to hear ("Don't trust anyone over 30 * * *"). Moreover, formal studies of youth-attitudes have been concerned with specific questions, such as sex, drugs, racial biases, religion, etc., questions of particular concern to adults.

It is our belief, however, that (*a*) adults may well be unaware of some questions which deeply concern young people; and (*b*) that the "generation-gap" in our research approaches might be overcome by having *students themselves* design a study of students attitudes and values; and (*c*) such student involvement would not only provide invaluable data, but would contribute to implementation and dissemination as well as other important side-effects—(involvement in sociological research, training, clarification of student-concepts, etc.).

Procedure

Participants will be drawn from the University of California at San Diego, California Western University, and San Diego State College; all will be volunteers. At the outset of the study, all participants will be fully informed as to the objectives of the study, and of the purposes which each method is intended to fulfill: participants will in fact be co-researchers. Among the research methods available to the students and WBSI staff will be the following:

(*a*) Residential laboratories. As an alternative to interviewing and questionnaires, groups of students will participate in intensive basic encounter groups, the purpose of which will be to explore as deeply as possible their attitudes, feeling, values, etc., not only as an end in itself, but to uncover implicit problems, conflicts, and concerns. All sessions will be tape-recorded, and excerpts will be content-analyzed. Students will be trained to make the content-analyses; they will discuss the results in the context of designing larger-scale student-attitude studies.

(*b*) Group and individual interviews carried by the students themselves in their own vernacular, will be conducted as a cross-check on and supplement to the data from the encounter groups, and as a means of ascertaining which of the two data-gathering methods seems most valid.

(*c*) Tape recordings and content analyses will be made of youth and teenage "talk shows" such as those conducted by Elliot Minsk (KPFK), Mort Sahl (KLAC), in the course of which young people air their gripes, hopes, and aspirations. On the basis of consistent themes revealed by content analyses, it should be possible to forecast, albeit tentatively, the "tone" of society in the coming decade or two.

(*d*) Simulations will be extensively used in several contexts. Students will be asked to act as decision-makers faced with a variety of relevant questions—e.g., "Design a curriculum for a medical school"; "Deal with a student-boycott"; "Set the educational goals for a society in which there is a guaranteed annual wage, a 20-hour work week, and persistent racial segregation." Such exercises provide another way of tapping value-systems; they readily lend themselves to future-oriented decision-problems; and because the decisions made in the simulation have consequences for the simulated "world," they provide participants with an opportunity for reality-testing and for checking, extending or revising their concepts. In a very real sense this study will be of students, by students and, hopefully, for students.

Study V. The Future: Focus—The Human Condition; Format—A T-Group Conference Technique

(Study Director: Richard E. Parson)

Objectives

In 1960, Robert Heilbroner wrote that "advances in technology and science rewrite the very terms and conditions of the human contract with no more warning than the morning's headlines." We have tried to foresee the changes in science and technology, but not their effects. So we are continually confronted by crises and emergencies in a world we did not intend to make. For man's mastery of the physical world, increasing with almost frightening speed, has unleashed forces for change whose potency we are only beginning to apprehend. To use that potency instead of being victimized by it, humanity is trying for the first time in history to master the future—not by extrapolating the past or even the present, and not alone by imaginative science-fiction leaps. By using all the techniques available, "futurists" are attempting to understand the forces of change and make rational estimates of their consequences. Their purpose is not only to foresee the future, but to create it.

Institutions for the study of the past are now rivaled by institutes for the study of the future, and historians take a back seat to futurists. But because these studies are supported almost entirely by groups concerned with the impact of technology and science (the military, industry, and to a lesser extent, governmental decision-makers), the focus is on changes in technology, in weapons systems, in economic and demographic conditions.

As a result, these studies offer us a picture of the future that seems rather like a Buck Rogers comic strip. Everything has changed except the people. Yet a clear look at present social turmoil should warn us that the very *human condition* will change, that our social and political institutions, our attitudes and values, our work and our play, our human relationships, cannot fail to be radically altered by forces already set in motion.

And changes in the human condition will have vital implications for educa-

tional planning. Since education reflects society—and society reflects education—it is futile to plan for education in the future unless we have some idea of the needs and goals of the society in which that education will be embedded.

The most serious and unavoidable problem with predictive studies is this: by the very fact of predicting the future, such studies help to determine it. They are self-fulfilling prophecies, and prediction becomes, inevitably, prescription. But if our predictive studies are concerned solely with technology, economics, and the like—if *people* are left out—we are in danger of prescribing an inhuman world.

We would like to gain some information as to the possible consequences for the human condition of developments in technology, in Federal programs which parallel or articulate with education, and in industrial programs designed to contribute to, or compete with, education. The objective of this study is to obtain the high-quality, combined judgments of leaders who are intimately involved with these three forces for change and who are concerned with their impact on cultural values, social institutions, human development, and human potentialities.

Procedure

Studies of the future, which must rely heavily on the judgments of experts, have suffered because these judgments could not be obtained in a group atmosphere conducive to creative thought, careful analysis, and really free interchange. By and large, therefore, the systematic studies have had to be based on individual interviews and questionnaires, because it has been found that while group meetings do sometimes stimulate creative thinking, they also produce polarization, bandwagon effects, inhibiting pressures, exaggeration, competition, and the like. For a number of years, WBSI has used intensive small group (T-group) techniques to help various groups of people in many settings, resolve such problems, so that the products of group effort can be more reliable, valid and useful. We would like to test the effectiveness of the T-group as a conference-technique to develop better ways of obtaining expert judgments.

We propose to hold three conferences in the summer of 1967, each lasting two days, to discuss the implications for education of the changing human condition resulting from changes in (1) technology, (2) industry, and (3) Federal programs. Panels of persons from these fields as well as scientists, scholars, and students of human affairs, each panel consisting of not more than ten participants, will be assembled.

An intensive orientation procedure, based on a T-group format, will deal essentially with the composition and dynamics of the panel, so that members will not be inhibited by their own interpersonal processes. Members will then be invited to discuss quite spontaneously and freely the implications for the changing human condition of a series of predictions culled from the findings of leading centers for studies of the future—for example, RAND, the Hudson Institute, the Center for the Study of Democratic Institutions, and Futurables.

While the discussions will, in the main, be unstructured, the project director will attempt to insure that as broad an analysis as possible is made, covering changes in social institutions, cultural values, and human development. All discussions will be tape-recorded.

In addition, each panel will be asked to strive for consensus on the various predictions, both as to the human potentialities and the implications for educational policy. These items of consensus and recommendations for policy planning, together with high-lights from transcripts of the proceedings, will be assembled in a series of three reports. The reports will be given the widest possible distribution not only to educational policy-makers but to the public; excerpts from the tape recordings and possible television coverage of the conferences will be made available for broadcast.

Design for an Operational Policy Research Center

(Study Director: Richard E. Farson)

The development of a design for an Operational Policy Research Center will be treated as a separate study, involving all the leaders of the pilot research projects described above. Our approach to the task will be divided into two phases.

Phase I—Coordination of pilot studies

Led by Richard Farson, Study Directors of the pilot project will meet regularly as a group to coordinate activities within the pilot studies, to analyze the problems and possibilities that appear within each study, to seek cross-disciplinary and cross-study potentialities, and to communicate the relevant

findings among the project staff and within WBSI as a whole. A primary purpose of these exchanges will be to analyze the experiences of each study group for problems and findings relevant to designing the Operational Center. The activities of this Center Design Group will be aided by the systems-analysis competence of several of its members. In addition to the Study Directors, this group will include C. Fremont Sprague, III, a mathematician and systems analyst with significant experience in designing management systems, and Wayman J. Crow, Associate Director of WBSI. In the last three years, in the course of developing a comprehensive simulation-model of society, Crow has become particularly interested in applying systems-analysis methods to studies of society as a whole, as a means of tracing the consequences for a society of changes in one segment. Tore Tjersland, an economist, and director of one of the studies described above, also teaches operations research at California Western University.

It will be the task of the systems-analysis specialists to assist the group in asking those questions which will force a comprehensive design, and one that emphasizes dissemination and communication. Wilburt H. McGaw, Communications Associate, and Toni Volcani, Editorial Associate at WBSI will be asked to assist the group in those aspects of the design that involve communications and dissemination.

Thus the Center Design Project will, in a literal sense, "over-see" the pilot phase. Key WBSI staff members, currently involved in other activities, will also be invited to become members of the Center Design Project, or to contribute their special knowledge and competencies as the need arises. WBSI has assimilated and successfully conducted several large projects. The opportunity to become a U.S.O.E. Policy Research Center is, however, regarded as uniquely appealing by the entire WBSI staff, and all will unquestionably be involved, informally, in the Center Design Project.

Phase II—Formal development of the design for a Policy Research Center

Since the design will be based in large part upon experience gained in the pilot projects, the objectives of Phase II can only tentatively be set forth with the exception of objective (a) below:

(*a*) *Determine the organizational relationship of the Operational Policy Research Center to WBSI.*—Should the OPRC have a relationship similar to that of the 30 member O.E.O. evaluation project? The O.E.O. project is self-contained, yet an integral part of WBSI, able to call on all the resources of the organization.

(*b*) *Identify educational policy-makers.*—The primary purpose of the OPRC is to generate findings information for educational policy-makers, but who are they? Are those to whom such findings would be communicated, the persons who actually utilize them? Our experience with school systems suggests that the locus of policy-decision-making is not easy to identify, varies from system to system, and may depend on other factors such as the amount of conflict in the community over educational policies.

(*c*) *Utilization of Center outputs.*—With implementation in mind, it may be important to know how research results are utilized. This is a "feed-forward" mechanism, in that it often has an effect on the conduct of the research itself. For an Operational Center, the use of the outputs would probably vary from project to project.

(*d*) *Scope of OPRC research.*—WBSI has conducted research within the entire "local-to-global" spectrum, ranging from studies of the dynamics of a small group, to studies of factors affecting global defense strategies. Therefore, while WBSI is prepared to perform research at any level, we are interested in determining where to construct the boundaries between the entity to be researched and its environment. It will be important to the design of the Center to identify the area within the local-to-global spectrum to which research will be directed.

(*e*) *Data resources.*—We will want to make a general literature survey, and develop an efficient system for finding, storing, and retrieving relevant information.

(*f*) *Use of consultants.*—It is anticipated that the use of consultants from a very wide variety of fields will be important in educational policy research. The Center Design Group will explore a variety of ways of using consultants, applying, among other things, our own experience in consulting with many organizations.

(Vitas and lists of publications of the Study Directors will be found in Appendix C.)

IV. FACILITIES AND PERSONNEL

Staffing

The Western Behavioral Sciences Institute, located in the heart of La Jolla, is now in its eighth year and has grown from an initial staff of 4 to its present staff of 72. It is chartered under California and Federal laws as a non-profit organization incorporated for research and education in the behavioral sciences.

WBSI is goverened by Board of Trustees and is directed by Richard E. Farson and Wayman J. Crow. The staff consists of 20 researchers at the Ph.D. and M.A. level, 3 communications specialists, and 50 supporting personnel, including research assistants, secretaries, data clerks, lbirarian, multilith operator, bookkeeper, etc. Three distinguished behavioral scientists are permanent Resident Fellows: Jack R. Gibb, well-known for his work in management- and organization-theory; Theodore M. Newcomb, dean of American social psychologists and Carl R. Rogers, internationally known for his innovations in the theory and practice of psychotherapy.

Personnel policies and administration

We believe that our administrative and personnel policies are perhaps our greatest strength. The leadership of WBSI has been in the same hands since its inception. Their purpose has been to create a staff-managed organization in which responsibility and decision-making power are distributed as widely as possible throughout the membership. The fact that the power to make an impact on WBSI's policies and programs resides in the entire staff has, we are convinced, made for better decisions, reduced to a minimum the organizational friction that absorbs much energy in more traditionally-run organizations, and contributed greatly to the shared sense of aliveness, enthusiasm, and commitment that characterizes WBSI.

Because WBSI is committed to belief in both the possibility and the necessity of individual growth within an organization, we apply to our own operation the participative management techniques worked out by members of our staff. Our goal is to encourage all members of our organization to increase the scope of their interests, activities, and responsibilities. Thus clerical personnel who wish it are trained in a variety of research tasks. This has given us a remarkably flexible and cohesive organization; more importantly, it encourages personal growth and unrestricted development of each member's capabilities.

To promote meaningful group interaction, we encourage the use of the T-groups within our staff as a whole and for project teams. In addition, we are experimenting with various ways to increase staff participation at all levels in overall policy decisions and in sharing-out administrative and "housekeeping" responsibilities.

In summary, we regard WBSI itself as an interdisciplinary team. Our goal is to create an organization that is self-determining and self-renewing; in which every member can fulfill his potential capabilities; and in which his association with WBSI is a means to personal growth and rewarding interpersonal relations. We have not solved all our problems nor succeeded in all our efforts to create the high degree of openness, trust and commitment that we think is possible, and we are often painfully aware of the discrepancy between what we are and what we want to be.

Research policies

Interdisciplinary approach.—WBSI's staff-development and research programs have been pursued with the goal of creating strong but highly flexible and versatile interdisciplinary teams. To increase cross-fertilization and to promote the Institute's cohesiveness, staff members participate as much as possible in more than one project; thus the project director of one study may be a consultant to another. Because WBSI is small and our organizational climate is participative and informal, there is a high degree of cross-disciplinary and cross-project interchange and discussion.

To widen its interdisciplinary scope, we have a strong and active Visiting Fellows program which enables distinguished scholars from a wide variety of fields to spend three months to a year with us. Because our goal is to further challenging, future-oriented research, we have been able to attract such outstanding scholars as Ralph Gerard, Abraham Kaplan, Irving Janis, Abraham Maslow, Herbert Kelman, and Richard Snyder. In addition, 4 Post-Doctoral Fellows are in residence for a year, under a grant from the National Institute of Mental Health.

Action-oriented.—The goal of our research is not the production of formal knowledge to be published in professional journals and stored in libraries. Our goal is the production of constructive change in the behavior and experience of human beings. This can only be achieved by the application and communication of knowledge. Most of our research studies have therefore been action-programs, conducted in the community: Studies on the dynamics of change and the use of self-directed groups as a change-resource, sponsored by the Vocational Rehabilitation Administration, involve the participation of the vocationally-handicapped in San Diego and in the riot-area of Los Angeles. Simulations as a means of promoting studies on innovation in education are conducted in the San Diego County school system as well as in a number of other schools throughout California. An international cross-cultural project on the use of simulations, both as a research and as an educational technique, involves students in Japan, Mexico, Denmark, and Norway, as well as American students. In a large-scale field study to evaluate San Diego County's Community Action Program, conducted for the Office of Economic Opportunity, we are involving members of the target population as data-clerks, interviewers, etc.

We believe that research so designed and carried out is self-implementing. By studying the dynamics of constructive change in the target population itself rather than in the laboratory, we are simultaneously implementing a degree of personal growth and change in the participants, testing and assessing, refining the techniques under study, and—because of the nature of the studies—creating a climate for further change in the wider community.

Communications-oriented.—From the beginning, we have been concerned with discovering and devoloping better mehods of communicating and disseminating, not only our own findings, but those of the behavioral sciences as a whole. We therefore sponsor public lectures by outstanding authorities, among them Abraham Maslow, Erich Fromm, Gardner Murphy, Charles Osgood, S. I. Hayakawa, Gordon Allport, Aldous Fuxley, Paul Tillich, Roy Wilkins, and Harold Taylor.

We publish *WBSI Reports* so that the results of our research will be readily available to interested laymen as well as to professionals. We are building a library of reprints, tapes and films for use in a variety of public as well as professional contexts. We conduct workshops, seminars, and conferences, both for the public and for specific groups.

In addition to these conventional approaches to communications, we have developed programs for radio and television—for example, the 13-week "Human Encounter" series produced in cooperation with the University of California Extension Division on KOGO–TV. Our communications staff, organized several years ago, includes a professional scientific editor and two specialists in motion picture production and audiovisual communications. In conjunction with our research projects, we are developing and testing other devices such as programmed-learning materials, training manuals and classroom simulation "games."

Physical facilities

Location.—WBSI's location in La Jolla is an asset. Desirable climate, beautiful surroundings, rapidly expanding cultural resources, easy and fast access to San Diego, to Los Angeles, and to some of California's most attractive vacation and wilderness areas have contributed importantly to La Jolla's potential as one of the major technical, scientific, and intellectual centers of the world.

Plant.—WBSI's present plant consists of 40 rooms: offices, small library, a photographic and recording library, a duplicating facility, conference rooms, projection room, and small-group laboratory. In addition to the usual office equipment, our physical resources include 7 professional quality tape recorders, motion picture and still camera, an offset press, Xerox copier, and a growing specialized library.

External facilities.—Within the radius of a few miles we have an abundance of valuable resources; the libraries of The University of California at San Diego, San Diego State College, and California Western University; extensive data-precessing facilities at UCSD and at Computer Applications, Inc., a nationwide firm specializing in services of this type which is providing programming and systems-analysis support to our OEO project under a sub-contract.

Because we are "community-action" oriented, we have established close working relationships with community and professional organizations, particularly with the school systems in the San Diego area and elsewhere in California. A

partial list of organizations with which we have worked is presented in Appendix (B).

We have also established close contacts and cooperative relationships with radio stations such as Pacific-KPFK (which presents a biweekly WBSI talk), with Time-Life KOGO–TV, with the local press, and with a number of editors and publishers.

Efficiency

We have operated at a low cost to the agencies who have contracted for or funded our research, among them the Office of Naval Research, the National Institute of Mental Health, the Air Force Office of Scientific Research, the U.S. Vocational Rehabilitation Administration, and the Office of Economic Opportunity. Our current overhead rate, about 30% of direct costs, is moderate for a private, independent research center; our 1966–67 expenditures of about $420,000 are within 5% of projected expenditures for the period. We believe that the variety, volume, and quality of our work, accomplished on a comparatively small budget, indicates that our efficiency is high.

(We are including in Appendix B letters in support of this proposal from individuals representing a number of the public and private organizations with which we have worked.)

BUDGET

Initiator.—Richard E. Farson.
Institution.—Western Behavioral Sciences Institute.
Duration of Activity.—9 months.
Beginning Date.—June 1, 1967.
Ending Date.—March 1, 1968.

	Percent of time	Project cost
I. Direct costs:		
A. Personnel position:		
R. E. Farson, Director	50	$7,500
W. J. Crow, Associate Director	10	1,450
H. T. Sprague, research associate	75	8,575
J. R. Raser, research associate	25	2,575
R. G. Shirts, research associate	50	5,125
T. L. Gillette, research associate	50	5,125
T. Tjersland, research associate	40	4,100
C. F. Sprague, research associate	25	3,850
W. H. McGaw, communications specialist	50	5,125
Research assistants, 5 at $6,000		22,500
Secretaries, 2 at $6,000		9,000
Consultants		9,000
Subtotal personnel		83,925
B. Employee benefits		7,370
C. Travel		3,000
D. Supplies and materials		1,800
E. Communications and publication		1,500
F. Services:		
Duplicating and reproduction		500
Statistical (computer time)		600
G. Final report costs		500
H. Equipment (2 tape recorders, 2 typewriters, 2 dictating machines)		2,400
I. Other direct costs:		
Space and utilities		4,275
Telephone		200
Subtotal other direct costs		22,145
J. Subtotal, direct costs		106,070
II. Indirect costs (30 percent)		31,821
Fee (7 percent)		7,425
Subtotal indirect costs		39,246
III. Total costs		145,316

NOTE.—The Institute's administration and accounting procedure were reorganized as of July 1st, 1966. Budgeting procedures and the experience from that time to the present have been used to estimate the indirect costs requested. Because the arrangements are relatively new, and the cost experience relatively short, only a provisional indirect cost rate has been approved with the local cognizant government audit authority.

PROPOSAL FOR RESEARCH AND/OR RELATED ACTIVITIES SUBMITTED TO U.S. COMMISSIONER OF EDUCATION FOR SUPPORT THROUGH AUTHORIZATION OF THE BUREAU OF RESEARCH

Title.—The Implications of Social and Economic Changes for Educational Policy in the Next Two Decades—A Pilot Study.
Applicant Organization.—National Planning Association.
Initiator (Principal Investigator).—Leonard A. Lecht, Director, Center for Priority Analysis, National Planning Association.
Transmitted by.—John Miller, Executive Secretary, National Planning Association.
Duration of Activity.—June 15, 1967 to March 15, 1968.
Date Transmitted.—April 3, 1967.

ABSTRACT

The objective of the proposed pilot study is to indicate how a center for policy research in education could be organized to conduct research and disseminate the findings of research which cumulatively added to our understanding of social change and its probable implications for education. These changes and their implications can be illustrated by reference to the shifts in manpower requirements and employment opportunities which are expected to occur in the next decade or two because of technological change, rising family incomes, greater leisure, higher levels of educational attainment, the spread of urbanization, and the pursuit of national objectives in such areas as health, urban development, or coping with poverty. It is proposed that the nine month pilot study concentrate on three considerations growing out of these changes. They are:

1. The long-term implications of rapid technological change for society, manpower needs, and education.
2. Manpower supply, social change, and education.
3. The social basis for meaningful education in low-income urban areas.

"Manpower requirements and employment opportunities" make up only one of many factors which will influence the future design of educational systems. Focussing on manpower considerations provides a basis, within the limits of a short pilot study, for appraising the consequences of the social and economic changes anticipated in our society in the next two decades for education. The pilot study would draw on projections of manpower requirements for achieving national objectives in the 1970's prepared by the National Planning Association in a study now nearing completion.

The staff of the pilot study would consist of an interdisciplinary group including economists, educators, sociologists, and consultants with a variety of backgrounds ranging from art to the presidency of a national labor union. The experience gained in the course of the pilot study can serve to indicate how an interdisciplinary center for policy studies can conduct research to provide the information needed to suggest, and to help refine the criteria for decision-making in education. The problems to be investigated, and the procedures proposed for the pilot center are discussed in greater detail in the body of the proposal.

PROBLEMS, PROCEDURES, AND OBJECTIVES

I. An overall view

Education in our society has had many of the characteristics of a secular religion. It transmits our culture and serves as the foundation for our technological dynamism. Widespread diffusion of educational opportunity has been our main channel for diffusing social and economic opportunity. The skills and knowledge gained through education are the prerequisites for personal fulfillment, for successful vocational training, and for intelligent social and political participation in a complex technological society.

Social, economic, political and technological changes of a far-reaching nature have been adding to the tasks imposed on education and they are likely to continue doing so in the future. Expanding educational opportunity has become the strategic ingredient in the nation's programs for coping with poverty and racial discrimination. Assuring the nation's growing manpower needs for scientists and engineers, for teachers, doctors, electricians, city planners, social workers, or creative artists depends on progress in education. The research revolution which tripled R & D spending in the decade after 1953 has created a situation in which "schools must teach, and man must know many subjects

and fields unexplored or of scant importance in past generations." In higher education, massive expansion in university-sponsored research, largely financed by the Federal Government, has led to the development of a new type of educational institution, the "multiversity." The impact of competitive coexistence with the communist nations has intensified the need for more general education to promote our own cultural performance, and for more technical education to add to the skills required to increase our economic strength. Similarly, the prospects for world peace in a nuclear age demand more widespread understanding of our own and of other societies than has ever been the case before.

The social and economic changes which have been adding to the tasks imposed on education arise from technological change, the greater leisure available to the population, and the nation's greater concern with enabling individuals in marginal groups to participate as citizens, persons, and workers in the larger society. Defining the areas in which the educational system can make a strategic contribution to coping with these problems, and the changes the new demands are likely to imply within education, involves research to indicate the probable dimensions of the changes in our society in the 1970's and 1980's.

The present proposal is an outgrowth of the National Planning Association's research in social and economic changes and their implications for the nation's future. Many of the techniques of economic projection now in widespread use in the United States and abroad have been developed by NPA. NPA has completed, or is undertaking studies of the future population by age group, and of the anticipated income and employment for the nation. Similar studies have been completed for each of the individual states. A study has recently been completed for the National Science Foundation investigating the processes by which new technology becomes diffused through the economy. This project has been an interdisciplinary undertaking involving the joint work of an industrial engineer and a sociologist. NPA has recently finished several studies of the impact of disarmament for local communities undertaken for the United States Arms Control and Disarmament Agency. Since 1962, when NPA established the Center for Priority Analysis, it has pioneered in research in identifying quantitative standards for national goals, and in projecting the dollar costs and manpower requirements for achieving them. Early in 1967 NPA received a four-year grant from the Ford Foundation to expand its research in goals analysis, to relate the research more closely to the programming-planning-budgeting systems being adopted at many levels of government, and to revise its goals studies in the light of the changes in our society in the past decade. The findings of these studies, and the expertise of the staff participating in them, would be available for the work of the pilot center in policy research.

The proposed pilot study would be carried out in cooperation with a group of persons with professional experience in educational research. This group would be headed by Dr. Gabriel Ofiesh, Director of the Center for Educational Technology at Catholic University. The common denominator for the studies suggested in the nine-month pilot phase is the use of information concerning probable changes in manpower requirements and employment opportunities in the next two decades as a take-off point for relating the anticipated social and economic changes to their consequences for decision-making in education. The end product of the pilot study would be a report translating the manpower information into the relevant implications for alternative strategies in the design of educational systems, together with a model of the operational educational policy research center indicating the proposed organizational concept and information flow.

II. Work, education, and employment—The experience since World War II

The interaction between economic and educational institutions can be brought into focus by a consideration of the changes in occupational requirements since World War II. In this period, economists, educators, and others have been observing that the relationship between work, education, and employment has been undergoing a significant change. (See Appendix Table 1). The overall impact of these changes has been to accentuate the economic premium placed on formal schooling, and to increase the economic penalties for lack of sufficient education and training. The employment of white collar workers, the occupational group for which high school graduation, and, even more so, college education, is the typical requirement has been expanding rapidly. Employment for professional and technical workers, for example, grew by 125 per cent between 1947 and 1964.

This compares with a 22 per cent increase in all civilian employment. The occupations which provide the bulk of the job opportunities for persons with less than a high school education—blue collar jobs and farming—have been increasing slowly or they have been decreasing. The major exception is the service group of occupations which grew at about the same rate as white collar employment in the 1947 to 1964 period but, in absolute amounts, increased by less than a third as much. While the capital goods boom in the past few years and, more recently, the defense expenditures associated with the military activities in Vietnam have considerably increased employment opportunities for less skilled or educated workers, the broad changes in the post-World War II period are likely to represent the overall trend of events in the foreseeable future.

The implications of these changes for our society are supplemented by the association between educational attainment and unemployment. This association is especially marked in periods when a sizeable pool of unemployed workers enhances employers' choices in hiring. In 1964, for example, 7 per cent of the white males who had completed 8 years of school or less were unemployed. Only slightly more than 1 per cent of the persons with 4 or more years of college education were unemployed. The risks of joblessness, and the accompanying personal demoralization and social disorganization, were over 5 times as great for the males with only a grammar school education as it was for individuals who had completed 4 years or more of college.[1]

The impact of the shifts in the occupational distribution of employment have been especially marked for the individuals in the groups which have been at a disadvantage in obtaining access to opportunities in education, job training, and employment. Nonwhites illustrate these impacts. The unemployment rate for nonwhites has been roughly double or more the white rate for over a decade. In the prosperity year 1965, the unemployment rate for non-white male teenagers exceeded 22 percent, and for female teenagers it approximated 30 per cent. The overall national rate in 1965 was 4.6 percent.[2] The heavy unemployment rates for nonwhites are very considerably affected by their underrepresentation in the better paid, less unemployment prone occupations for which educational credentials are the primary prerequisite. If the trends in upgrading the jobs of nonwhites continue at the same rate as in the recent past, the nonwhite unemployment rate in 1975, according to the National Commission on Automation, Technology and Economic Progress, would be about 2½ times that for the entire labor force.[3]

These changes in the occupational distribution of employment and the unemployment in less skilled occupations, have been primarily responsible for the recent discussions of the "manpower revolution," school "dropouts," or of "automation." President Johnson has observed that the "education * * * of many of our people has not prepared them adequately to qualify for today's jobs, to absorb skill training, or to capitalize on new opportunities."[4, 5] The Elementary and Secondary Education Act, the Higher Education Assistance Act, the Manpower Development and Training Act, or the Job Corps and the Neighborhood Youth Corps sponsored under the auspices of the Economic Opportunity Act are probably the forerunners of many new programs to alleviate the penalties of inadequate and insufficient education, and to help assure that the supply of trained and qualified manpower will increase as needs increase in the future. This legislation increases both the means available and the demands on education. It has also led to the creation of new para-educational institutions in high priority areas such as reducing long-term unemployment by providing basic literacy education and vocational training.

Our nation's responses to the problems arising from changing occupational requirements are likely to involve a process of experimentation to develop institutions and programs serving objectives arising from a variety of social needs. As yet, many of these problems are only partially resolved. What kind of education, for example, will produce technologists who are also socially responsible, literate citizens, and what will it cost? Does the mushrooming growth in employ-

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[1] Johnston, Denis, "Educational Attainment of Workers, March, 1964," *Special Labor Force Report No. 53*, U.S. Department of Labor, 1965, Table 5, p. 21.
[2] *Manpower Report of the President*, 1966, Table A–13, p. 168.
[3] *Technology and the American Economy*, Report of the National Commission on Technology, Automation and Economic Progress, 1966, p. 31.
[4] *Manpower Report of the President*, 1964, XIV.
[5] *Toward Full Employment*, Report of the Subcommittee on Employment and Manpower, U.S. Senate, 1964, p. 79.

ment for technicians imply an expansion in vocationally oriented high schools and community colleges, or is there a need for a new type of post-high school institution combining instruction in basic science, mathematics, and the humanities with work experience in the industries utilizing the new technology? What are the changes in social and economic arrangements—i.e., in the cleavages between central city and suburb, in patterns of discrimination in employment, and in family backgrounds of poverty and cultural deprivation—which are the preconditions for successful educational experience for Negroes or Puerto Ricans in the urban slums? What kinds of teachers, curricula, and educational plant are most likely to prove effective in transforming the young, unskilled, uneducated and frequently unemployed members of the urban labor force—the social dynamite of our central cities—into self-realizing participants in society and productive wage earners? It is to questions such as these that the proposed center for policy research in education would be addressed.

III. Manpower requirements and job opportunities in the 1970's and 1980's

By the mid-1970's, the Gross National Product is expected to increase to a trillian dollars (in dollars of 1964 purchasing power). With this growth in GNP, the average American family would be receiving an income in excess of $10,000 a year in the next decade. The leisure available in which to enjoy these larger incomes is likely to be increased because of a decline in the length of the workweek, and even more so, by longer and more widespread vacations and the introduction into industry of such practices as sabbaticals. The uses made of this leisure will be those suitable to an urban way of life since by 1975 over three-fourths of all Americans are expected to be living in cities. These changes anticipated in the 1970's are likely to continue, or to accelerate, in the 1980's.

In the course of the next decade, the labor force is likely to increase by an average of 1.5 million a year, or by 50 per cent more than the average annual labor force growth in the past decade. A larger proportion of the labor force in the 1970's will be made up of young persons, of nonwhites, and of women. Persons in the under 35 age group are projected to make up 47 per cent of the labor force in the 1970's as compared with 40 per cent in 1965. Nonwhites will also make up a larger share because of their higher birthrates. From 1960 to 1966, for example, the nonwhite population under 14 grew by 16 per cent. The corresponding increase for the white population was 5 per cent. As technological advances originating in industry spill over into other areas such as the performance of household chores, these changes, together with advances in the technology of family planning, are likely to free many women, and especially women with college education, to seek full-time or part-time employment. Accordingly close to half of the anticipated increase in labor force between 1964 and 1975, some 7½ million out of 16½ million, is expected to be made up of women.

The economic focus of these changes in the next two decades will center on the interrelated, but distinct problems of "manpower requirements" and "job opportunities." Will there be enough growth in blue collar and service employment to absorb the new entrants into the labor market with limited schooling and job skills? At the other end of the occupational spectrum, will our schools be graduating enough trained and educated persons in the white collar occupations, and especially in the professional and technical fields, to serve rapidly growing needs?

The National Planning Association is completing a study of manpower requirements and job opportunities in some 80–odd occupations in 1975 for the U.S. Department of Labor. The study indicates the anticipated employment in each occupation if the GNP were to grow at a reasonably optimistic but feasible rate in the next decade, a rate of about 4.5 per cent a year. The study also includes projections of employment needs by occupation if our society were to achieve an illustrative set of national goals covering virtually all aspects of the private and public sectors of our society. The projections show manpower needs associated with the pursuit of individual goals such as health or education as well as the economy-wide total for all goals (see Appendix Table 2). While the manpower estimates refer to 1975, it is possible to use this information to develop similar estimates, although with somewhat less detail, indicating directions and broad magnitudes of change between 1975 and 1985.

The sixteen goals considered in the National Planning Association's study are as follows:

1. Agriculture
2. Area redevelopment
3. Consumer expenditures and savings
4. Education
5. Health
6. Housing
7. International aid
8. Manpower retraining
9. National defense
10. Natural resources
11. Private plant and equipment
12. Research and development
13. Social welfare
14. Space
15. Transportation
16. Urban development.

Needs in these areas, and standards for the achievement of each goal have been formulated by the National Planning Association from special studies, legislative hearings, legislation, and general national policy. The standards selected reflect current developments, and they represent levels of achievement regarded as reasonable and individually within reach in the light of present knowledge in a free enterprise system.

The underlying hypothesis in the NPA study of manpower requirements for national objectives is that the degree to which the nation pursues its goals, and the priorities our society assigns to each, will be an important influence in determining the patterns of education, job requirements, and employment opportunities in the coming decades. If our society were to give a high priority to achieving objectives in health and education, the primary increases in employment could be expected to occur in professional and technical occupations, i.e., for doctors, nurses, teachers, or medical technicians. Large increases would also take place in employment in service jobs. Greater emphasis on the pursuit of these goals would mainly increase enrollments and facility needs in higher education. Concentrating resources on rebuilding the nation's cities, or conserving and developing our natural resources, could be expected to substantially enlarge employment opportunities for blue collar workers—for craftsmen, operatives, and laborers. A high priority assigned to these objectives would create a need to expand and upgrade vocational education in the high schools and in the community colleges, or in apprenticeship and on-the-job training programs. The extent to which the educational system is provided with the resources to meet these requirements, or to provide adequate general education, will depend on the priorities given to education. These priorities, in turn, will be affected by the priorities given to other goals such as raising standards of private consumption, building more highways, protecting the nation's security, or developing the hardware and trained manpower to get us to the moon and back by 1970, and perhaps to Mars by the year 2000.

The probable changes in manpower requirements and employment opportunities have been the subject of considerable research and discussion in the past 5 or 6 years. Much of the literature in the field takes it for granted that changing manpower needs make up the independent variable, and that education is the dependent variable. The educational system, we are told, should adapt to labor market developments.

The findings of the NPA manpower study indicate that the opposite is also true. Rising levels of educational attainment have probably caused a number of the changes in job requirements. One of our major national goals has been to increase educational opportunities for all groups in the population. Accordingly, the educational level in the United States has been increasing rapidly in the past two decades and the increases are likely to continue. As recently as 1952, two fifths of the employed males 18 years of age or older had completed 4 years of high school or more. By 1955 this proportion had increased to 55 per cent. While the upgrading of educational attainment has been generally characteristic of the labor force, it has been especially marked for blue collar workers and farmers—the occupations which have provided the bulk of the employment for persons with 8 years of schooling or less (see Appendix Table 3). As a majority of the employees in these occupations come to have at least a grammar school education, and many come to have a high school education, individuals with lesser schooling will be at a disadvantage in obtaining employment. In these occupations, as in other fields, as the supply of well-educated persons increases, the greater availability of these persons to employers itself becomes a factor in raising entrance requirements for many types of work.

The significance of these considerations is that they help to define the context in which specific manpower and educational problems become important in mapping out the paths to alternative futures. The manpower projections which are likely to be relevant for this purpose are those which take into account

the role of the educational system as a force making for change in job requirements and employment opportunities. The changes needed to create the conditions for meaningful education in the central city low income areas are those changes which are significant for a society committed to achieving equality of opportunity for nonwhites, to the reduction, if not elimination of poverty, and to the objective of transforming our central cities into viable and integrated urban communities where people can live, work, play, and move about.

IV. Concentration areas for the pilot study research

The NPA manpower projections offer a basis for significant interdisciplinary research in examining the relationship between the labor market and the educational system. It is proposed that the research in the pilot study concentrate on exploring three aspects of this relationship. The aspects suggested include the potential impacts of long-term rapid technological change, social and educational changes facilitating the growth of a labor supply in probable "shortage" occupations, and the social basis for meaningful education for young people in the central city low income areas. She proposed topics for research are discussed below.

1. The long-term implications of rapid technological change

Projections covering a five or ten-year period tend to stress the elements of continuity in our society. The rate of technological change, patterns of work and leisure, and the underlying social and economic framework are regarded as undergoing evolutionary changes from the experience of the present and the recent past. Most of the persons who will be in the labor force in the next ten years are already in it, and it is unlikely that they will radically change their occupations. While five or ten-year projections serve important needs for business or government economic planning, the time perspective which is relevant for educational planning is closer to 20 or 30 years, and, for many purposes, it is the equivalent of the time span for an entire generation.

In attempting to anticipate the social and occupational changes which could characterize the next 20 or 30 years, it would be reasonable to allow heavier weight to the elements of discontinuity in the estimates. In part, this anticipation reflects the judgment that technological changes, i.e. the computer or perhaps nuclear power, are likely to lead to increases in productively which could be considerably larger than the annual growth in GNP per man-hour in our recent history. In part, this emphasis grows out of the knowledge that over several decades' time some occupations contract or disappear, while others expand sharply and new occupations come into being. In the course of 20 or 30 years, many Americans radically change their jobs, their occupations, and their way of life, frequently moving from rural to urban areas, or from regions which are growing slowly to regions in which rapidly growing, and often different, economics opportunities offer strong attractions. The expansion in employment opportunities for programmers and electronic technicians in the recent past, or the massive economic expansion in the southwestern and Pacific regions since World War II are instances.

If this version of the future were to materialize, the options available to our society, and the demands on education would change. Hours of work would probably be sharply reduced, and long vacations, perhaps of 2 or 3 months a year, would become generally prevalent. There would be strong incentives to encourage early retirement from full-time work for many, say at 55 or 60. Many persons would be engaged in part-time work. A proposal which has received widespread consideration would have the government pay a guaranteed annual income to the persons, primarily less skilled and educated individuals, who would no longer be needed in the labor force. Education in this kind of society would be heavily concerned with adult education, and with education for the uses of leisure. The rapid pace of technological change would create strong demands for continuing adult education to maintain professional and other job skills which would otherwise frequently become obsolete. Since the accelerated pace of increase in our ability to produce would enable the nation to devote considerably more resources than is currently envisaged to rebuilding our metropolitan centers, to making advances in medical knowledge available to all Americans, or to encourage the arts, the implications of these new potentials for education would also receive consideration.

2. Manpower supply, social change, and education

The degree to which our society can pursue its objectives in such areas as education, health, research and development, or urban development in the next

two decades will probably be as much limited by shortages of trained and educated persons as by shortages of dollars. If our society were to concentrate on attaining goals in health, for example, requirements for M.D. physicians in 1975 are estimated to be 160,000 greater than in 1962. Similarly, achieving our goals in education is expected to involve the employment of 1.2 million more elementary and secondary school teachers in the mid-1970's than in the early 1960's. Aside from an expansion in numbers, achieving our objectives in these areas often implies a different kind of curriculum, or it would involve preparation to utilize new technologies.

Studies undertaken by the National Planning Association as part of its research in manpower requirements for national objectives indicate that an enrollment of 9.5 million persons would be needed by 1975 in higher education to achieve the objectives of the 16 goals considered in the study. This would represent a 5 million increase over the Fall, 1963, enrollments in higher education. The largest percentage increases in enrollment are expected to take place in junior colleges, and in graduate and professional schools.

While the projected increases in enrollment in higher education are large, it is also evident that our society provides higher education for only a part of the population of young people who could usefully absorb it Socio-economic status is still an important factor in the decision to attend or not to attend college. A survey in the early 1960's, for example, showed that 13 percent of the young people from families with incomes under $4,000 went on to college compared with 47 percent from families with incomes over $7,500. Differences in the life expectations of individuals in different social groups are probably of roughly equal importance with income differentials in accounting for the decision to attend college. The net result, according to the Senate Subcommittee on Employment and Manpower in 1964, is that "the nation . . . is losing through leakages in the educational system, a substantial portion of its brains and leadership potential." [6]

Social barriers based on race or sex serve to intensify prospective manpower bottlenecks. To cite an illustration, nonwhites accounted for 11 percent of total civilian employment in the United States in the early 1960's. Yet they made up only 5½ percent of all physicians and surgeons. Some of the most rapid growth is anticipated in the scientific and engineering fields. Less than 1 percent of the employed engineers in 1964, and 3 percent of the electrical and electronic technicians, were women.

If our nation were to assign a high priority to rebuilding its cities, there would be large increases in requirements for persons in skilled crafts for which apprenticeship training and vocational education in the schools have been the traditional avenues of access. Carpenters, electricians, plumbers, or pipefitters are instances. This supply of qualified people in most of these fields has been increasing slowly in the recent past, and sometimes not at all. Yet technological changes in construction, i.e., on-site assembly of components or use of synthetic building materials, have outmoded the earlier technology which is the basis for the 4 or 5 years apprenticeship periods in many of the building trades. Devising a vocational education and training curriculum adapted to the potentials of the new technology in construction would be a precondition for obtaining increases in supply in the building trades crafts on a scale commensurate with needs for urban renewal in the next 10 or 20 years.

The importance of technological and social changes for curriculum objectives is also illustrated by the new programs in making medical care more readily available to Americans. Medicare or Medicaid are examples. A common element in these programs is their greater emphasis on the importance of social and human factors in medical practice. Educating future physicians to the importance of these factors would involve a change in medical education to encourage greater emphasis on the social sciences and the humanities. The greater demand for medical care resulting from these new programs, in turn, can be expected to accelerate technological advances such as the use of the computer in recording medical histories and treatment, and perhaps as an aid in diagnosis. These changes make it necessary to educate physicans to understand the uses of modern data processing equipment.

Aside from specific changes in curriculum or vocational preparation, there is a need for more effective planning to link national priority decisions implying

[6] *Ibid.*

large manpower commitments in specialized areas with their implications for the labor market and for education. American experience with this kind of planning is new, and in the past it has frequently been absent. The mushrooming growth of the space program in the early 1960's, and its consequences for the utilization and training of scientists and engineers offers an illustration. In its report to President Johnson in 1964, the Killian Committee at the National Academy of Sciences observed that—

"In view of the way in which certain government decisions have radically altered the * * * deployment of scientists and engineers in recent years, it might be supposed that major decisions had been preceded by careful studies of their probable impact * * * for scientific and engineering manpower, and * * * the general direction of scientific and technological effort in the United States. Yet, so far as we can learn, no adequate studies * * * were in fact made before the decisions were taken." [7]

How to increase and improve the information flow from areas in our society where critical priority decisions are made affecting the use of manpower to other segments in our society where people are hired or receiving education and training would be one of the major research problems of the proposed center for educational policy research.

3. The social basis for education in low-income urban areas

It is reasonable to anticipate that school "dropouts" and persons lacking in job skills will still be with us in the next decade although they are likely to constitute a smaller share of the young adult population than in the mid-1960's. For the hard-core unemployed, for persons lacking in basic literacy, and for young people from families characterized by economic and cultural deprivation, vocational training by itself is not enough and it is likely to constitute an incompleted dead end.

Again, the Senate Subcommittee on Employment and Manpower has aptly summarized the problem. Students in the slums, the subcommittee observed, "enter the middle-class oriented school system at the age of 5 or 6 with almost insuperable handicaps. The school systems into which they come * * * are those with the lowest budgets, poorest buildings, and the most inexperienced teachers." Remaining in school until minimum school leaving age because of legal compulsion, these students drop out before completing high school "illiterate, untrained, and unmotivated." [8]

Rising levels of educational achievement in other parts of our society are likely to increase the disadvantages imposed by the slum schools on their students in seeking employment, in obtaining admission to training, and in participating as citizens in our society. The education which is likely to lead to successful vocational adjustment for young people in this group will involve a long-term process of social and educational change. These changes could be expected to include physical renewal of our decaying central cities, removal of the barriers which are converting the central cities into nonwhite ghettos, and new types of educational experiences ranging from prekindergarten programs to adult education and technical training.

Few people become employable in occupations other than unskilled labor until they achieve a minimum basic literacy, and also until they have assimilated the culture which has grown up in connection with seeking work and holding a job. Vocational education in low income areas, therefore, is likely to involve coordinating the community's resources for education, training, and social service to reach individuals currently at the margins of society. Teaching in these schools will probably require a new type of teacher—a person who combines the skills of the classroom teacher with the insights of the social anthropologist, and with the techniques which have proven effective in professional community organization and social service work. Undertaking these programs, in turn, could create considerable employment for individuals in the low-income areas in the newly emerging nonprofessional human service occupations—as teachers' aides, in helping to organize the community, and as interpreters between the school and families in the urban slum areas.

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[7] *Toward Better Utilization of Scientific and Engineering Manpower,* Committee on Utilization of Scientific and Engineering Manpower, National Academy of Sciences, 1964, p. 13.
[8] *Report,* Senate Subcommittee on Employment and Manpower, 1964, p. 80.

The proposed policy research center could bring its resources to bear to indicate the types of change, and the dimensions of the changes which are needed to create the conditions for successful education in the urban slums. The center would be concerned with changes in the training of teachers and in curriculum, the greater potentials for imparting literacy thru use of new technology such as the "talking typewriters" in use in New York City, and the kinds of educational plant, i.e., school parks, which could overcome the effects of residential segregation in strengthening segregated education.

V. Plan of research for the pilot study

The common denominator for the studies suggested in the pilot phase is the use of information concerning probable changes in manpower requirements and employment opportunities as a take-off point for the analysis of the operations of a series of institutions—economic, educational, political, the community—conceived as a system. While it would be unreasonable to expect a brief pilot study to produce definitive answers for policy decisions, the nine-month study should serve to identify the major variables involved in the system, the expected changes and their probable dimensions, and the broad implications for education and for the operation of a center for policy research in education.

The procedure planned for the pilot study would involve the preparation of a working paper for each of the three topics proposed for consideration. The papers would be concerned with such problems as—

1. What are the relationships between the elements in the system associated with the topic being examined?

Example.—How does the instability of family life in low-income, socially disorganized urban areas affect the kinds of educational experiences necessary in central city schools?

2. What are the forces likely to make for changes in the system in the next decade or two?

Example.—What are the probable implications of our society's greater emphasis on health objectives in creating opportunities to educate and train persons with limited formal schooling and job skills for jobs in new nonprofessional human service occupations in health?

3. What are the mechanisms within the system for coping with change?

Example.—How are sharply declining employment opportunities in agriculture translated through policy decisions or shifts in enrollment into their implications for vocational education in rural areas?

4. What new demands do the anticipated changes pose for education?

Example.—What are the implications of rapid technological change in making job skills obsolete for the role of adult and continuation education in our society?

5. What are the needs for additional research, for better information, or for new research techniques to provide the knowledge needed for making choices in coping with the changes likely to affect education in the coming decades?

Example.—Can the techniques of computer simulation utilized in "gaming" business decisions, or in selected military strategies, be used to show the probable effects of alternative programs for enriching the social experience of children from culturally deprived families in changing the low levels of aspiration frequently reflected in their vocational objectives?

6. What are the relevant publics for whom the research findings are significant, and how can the findings be disseminated to reach them?

Example.—Who makes policy decisions concerning education for scientists and engineers in our society, and what kinds of information do they use, and do they need, to make these decisions?

7. What are the implications of the experience gained in the pilot study for the activities of the proposed centers for policy research?

Example.—What are the significant links with other organizations and disciplines which are needed in conducting research on the effects of technological change in industry for education?

The working papers prepared by the staff would be reviewed by a panel of consultants drawn from a variety of fields. The consultants would also be available as resource persons in their special fields throughout the study. The reviewers would indicate alternative approaches which should be taken into account in the working papers, data and implications which had been overlooked, and dissents from conclusions and judgments which appeared to be overdrawn

and unwarranted. The working papers would be revised in the light of the suggestions and criticisms of the panelists of other staff members, or of other interested parties who might be called upon to participate in the reviews. The working papers, together with the comments and dissents of the reviewers, would provide the basis of the final report for the pilot study. The basic economic data needed for these working papers—the manpower projections, and an analysis of the social and economic framework underlying the projections—would be available at the beginning of the pilot study.

The final report will stress the implications of the pilot study experience for the operational policy research center. The report will include a model of the operational center indicating the anticipated information flow, data processing techniques, program for updating and revising information, techniques for validating conclusions and recommendations, plan for disseminating findings, and the center's organizational concept. A progress report summarizing the experience of the pilot study will be available in December, 1967. NPA will maintain contact with the monitor assigned by the Office of Education through the period of the contract.

The National Planning Association has had a great deal of experience in disseminating the findings of economic and social research to nontechnical, and to professionally interested audiences. The Association maintains its own editorial department and public relations office. It publishes a monthly newsletter, "Looking Ahead", which summarizes, in nontechnical language, the findings of research nearing completion. "Looking Ahead" is distributed to approximately 7–8,000 persons, organizations, and publications including most newspapers and magazines in the United States. NPA publishes reports, typically of 50–100 pages, for the general public which are based on its research. It also sponsors conferences and workshops in areas where NPA's research findings are useful to a broad group. NPA's research provides subjects for reports in the national press and for articles in journals of opinion, and it often serves to furnish data or hypotheses for ther researchers. In addition, the senior staff are frequently called upon to prepare papers or to address groups in areas where their research raises important questions for policy. In the past year, both Drs. Colm and Lecht have prepared papers dealing with the consequences of economic and social change for education. These papers are, or will be published.

NPA's resources in staff, in research experience, in administrative personnel, and in established procedures for coordinating the activities of several different research centers offer a strong basis for undertaking research to analyze future educational needs and resources in a changing society. The study proposed is feasible for NPA in the light of the time, the personnel, and the budget available. Cooperative links established with educators associated with the Catholic University's Center for Educational Technology would add research competence in education to NPA's experience in economic and social research. The findings of the pilot study would be of use to researchers and administrators concerned with designing educational systems for a changing society, for government agencies concerned with the place of education in coping with poverty or urban decay, for school systems seeking to plan their vocational programs, and for the many organizations, private and public, striving to improve the quality of life in our society through education.

PERSONNEL AND FACILITIES

The National Planning Association's contribution to the proposed pilot study would consist of staff, physical facilities, and administration and guidance for the study. The pilot study for which the present proposal is submitted would be conducted as part of the activities of NPA's Center for Priority Analysis, one of the four operational research centers of the National Planning Association. The Center's director, Dr. Leonard A. Lecht, would also serve as project director for the pilot study. Overall guidance for the study would be provided by Dr. Gerhard Colm, NPA's chief economist. Staff members from other NPA centers such as the Center for Economic Projections and the Center for Economic Programming would be available as consultants in areas where their technical expertise would be useful. If NPA were selected as one of the operational policy research centers, a separate center would be set up for policy research in education. This center would be headed by a person with a strong background in economic, educational and social planning.

The project staff for the pilot study would be housed in the offices of the Center for Priority Analysis in downtown Washington. The Center's present offices occupy a ten-room suite. If necessary, additional space would be available in the quarters of the NPA Center for Economic Programming in the same building. Aside from the standard office equipment, the Center for Priority Analysis has the use of seven electrical calculators. The Center has made arrangements with the National Bureau of Standards to use the computer facilities of the Bureau of Standards in its research for the Department of Labor. These arrangements could be extended to include the use of the facilities, as needed, in the research for the Office of Education.

The senior personnel who would be associated with the pilot study, and a brief statement of their experience and their rseponsibilities in the pilot project, are described below.

Gerhard Colm, Chief Economist, National Planning Association. Consultant on overall direction of study, one-fifth of time for nine months. Senior Economist, Council of Economic Advisers, 1946–1952, Fiscal Adviser and Deputy Chief, Bureau of the Budget, 1940–1946, Professor of Economics, and Dean of Graduate Faculty, New School for Social Ressearch, 1933–1939, Deputy Director and Director of Research Institute of World Economics, University of Kiel, 1927–1932, Professor of Economics, Universities of Berlin and Kiel, 1922–1923. Dr. Rer. Pol., University of Freiburg, 1921. Author, *Essays in Public Finance and Fiscal Policy*, 1955; *The Economy of the American People*, 1961. Member, American Economic Association, American Finance Association, President, Association for Comparative Economics, 1966.

Leonard A. Lecht, Director, Center for Priority Analysis, National Planning Association. Project director for proposed pilot study. One-half time for nine months. Chairman, Department of Economics and Sociology, Long Island University, 1954–1962; Assistant Professor, Carleton College, 1953–1954; Assistant Professor, University of Texas, 1949–1953; Ph.D., Columbia University, 1953. Author, *Goals, Priorities, and Dollars—The Next Decade*, 1966; *Experience Under Railway Labor Legislation*, 1955. Faculty Fellow, Ford Foundation, 1951–1952. Member, American Economic Association, American Statistical Association, Phi Beta Kappa, Royal Economic Society.

Gabriel Ofiesh, Director, Center for Educational Technology, Catholic University of America. Chief educational consultant for pilot study. One-half time for nine months. Director, training methods study, Comprehensive Training and Education Program, Office of the Assistant Secretary of Defense (Manpower), 1965–66; Chief consultant, educational technology, Office of Economic Opportunity, 1965, Ed.D., University of Denver, 1959. Author, *Programmed Instruction, A Guide for Management*, 1965. Member, National Advisory Commission for New Educational Media, Phi Beta Kappa, American Educational Research Association, American Psychological Association, National Society for Programmed Instruction (first president).

Edward B. Olds, social research consultant, senior staff sociologist for pilot study. Full-time for nine months. Sociologist, R & D Utilization Project, National Planning Association, 1966–1967; Research consultant to Adult Education Association, 1964–1965; Howard University Youth and Community Studies Center, 1963–1964; District of Columbia Renewal Program, 1964. Ph.D., University of Pittsburgh, 1942.

I. William Motzel, educational systems analyst, senior consultant in educational systems analysis for pilot study. Half-time for nine months. Consultant, Center for Educational Technology, Catholic University of America. Manager, educational systems engineering, General Learning Corporation, 1966–1967; Manager, special systems studies, Appollo Support Department, General Electric Co., 1964–1966.

David N. Ruth, senior sociologist for pilot study. One-half time for nine months. Behavioral scientist, Office of Development Planning, Agency for International Development, Department of State, 1966–1967; Operations Analyst, Department of Health, Education and Welfare, 1964–1966; Ph.D. ("with distinction") Harvard University, 1962; B.D. Union Theological Seminary, 1955.

Edmonia W. Davidson, Associate Professor of Educational Sociology and Adult Education, Howard University. Specialist in social foundations of

education for pilot study. One-half time for nine months. Professor of Education and Director of Extension Education, Southern University, 1958–1964; Educational Consultant, National Council of Churches, 1956–1967; Consultant to Litton Industries, Adult Basic Education Teacher Training Programs. Ed.D., Teachers College, Columbia University, 1958.

The following persons have agreed to serve as resource consultants for the pilot study. Time spent is expected to average approximately three to four weeks over a nine-month period.

Dr. Irwin H. Billick, scientist, Special Assistant to the Director, Institute of Applied Technology, National Bureau of Standards.

Professor Robert D'Arista, painter, professor of art, American University.

Sumner Myers, engineer, Institute of Public Administration, specialist in urban technology.

Dr. Seymour Rubenfeldt, clinical psychologist in private practice, consultant in mental health, author of studies in juvenile delinquency.

Dr. Harvey H. Segal, economics editor, the *Washington Post*.

Dr. Sidney Sonenblum, economist, Director, Center for Economic Projections, National Planning Association.

James A. Suffridge, International President, Retail Clerks International Association, AFL–CIO.

The persons listed as consultants have agreed to serve as indicated. It is anticipated that additional resource consultants will be added and that several members of the junior staff of the Center for Priority Analysis will be available to work on the pilot study. Dr. Ofiesh would be working with several consultants in education and in educational systems analysis associated with the Center for Educational Technology.

APPENDED ITEMS

Other information.—This or a similar proposal has not been submitted elsewhere. It is not an extension of, or an addition to, a previous or current project supported by the Office of Education. There has been some discussion between Gerhard Colm, David Goldberg, and Leonard Lecht concerning the proposal.

Report of other projects.—Dr. Lecht is also serving as project director for NPA's manpower research for the U.S. Department of Labor. The present contract for this research is scheduled to run through October 1967. Dr. Lecht devotes about half his time to the manpower study. The findings of this study, along with other NPA research, will provide the basic economic projections to be utilized in the proposed pilot study. As chief economist for NPA, Dr. Colm provides overall guidance for all of NPA's domestic research for government agencies.

APPENDIX

TABLE 1.—*Employment by occupational group, 1947 and 1964*

Group	Number employed (in thousands)		Percent increase, 1947 to 1964 [1]	Average annual growth rate, 1947 to 1964 (percent)
	1947	1964		
Total civilian employment	57,850	70,350	22	1.2
White-collar workers	20,200	31,100	54	2.6
Professional and technical workers	3,800	8,550	125	4.9
Managers, officials, and proprietors [2]	5,800	7,450	29	1.5
Clerical workers	7,200	10,700	48	2.3
Salesworkers	3,400	4,450	31	1.6
Blue-collar workers	23,550	25,550	8	.5
Craftsmen and foremen	7,750	9,000	16	.9
Operatives	12,300	12,900	5	.3
Laborers [3]	3,500	3,600	3	.2
Service workers	5,950	9,200	55	2.6
Private household workers	1,700	2,300	34	1.7
Other service workers	4,250	6,900	63	2.9
Farm occupations	8,100	4,450	−45	−3.5

[1] The "Number employed" figures have been rounded to the nearest 50,000. The percentage increases pertain to the unrounded figures.
[2] Excluding farm.
[3] Excluding farm and mine.

Source: Manpower Report of the President, 1966, table A–10, p. 164.

TABLE 2A.—*Employment by occupational group, 1964 and 1975*

Item	Number employed (in thousands)			Percent increase, 1964 to 1975 [1]		Average annual growth rate, 1964 to 1975	
	1964	Projections for 1975		Benchmark estimate	For aspiration goals	Benchmark estimate	For aspiration goals
		Benchmark estimate [2]	For aspiration goals [3]				
Total civilian employment	70,350	87,650	101,200	25	44	2.0	3.4
White-collar employment	31,100	41,800	48,900	34	57	2.7	4.2
Professional and technical workers	8,550	12,400	15,800	45	85	3.4	5.7
Managers, officials, and proprietors [4]	7,450	9,400	10,600	26	42	2.1	3.3
Clerical workers	10,700	14,700	16,700	38	57	2.9	4.1
Sales workers	4,450	5,300	5,800	19	30	1.6	2.4
Blue-collar workers	25,550	29,550	34,050	16	33	1.3	2.6
Craftsmen and foremen	9,000	10,700	12,800	19	42	1.6	3.3
Operatives	12,900	14,550	16,600	13	28	1.1	2.3
Laborers [5]	3,600	4,250	4,700	18	29	1.5	2.4
Service workers	9,200	12,800	14,650	39	59	3.0	4.3
Private household workers	2,300	2,850	2,900	23	25	2.0	2.1
Other service workers	6,900	9,950	11,750	43	69	3.4	5.0
Farm occupations	4,450	3,500	3,600	−22	−19	−2.2	−1.9

[1] The estimates of employment for 1975 in this table have been rounded to the nearest 50,000. The percentages refer to the original unrounded numbers.
[2] Refers to the anticipated employment associated with a 4.5 percent average annual rate of GNP growth between 1964 and 1975.
[3] This estimate implies a 5.8 percent average growth rate in GNP in the 1964–75 period.
[4] Excluding farm.
[5] Excluding farm and mine.

TABLE 2B.—*Occupational growth profile, 1964–75*

I. HIGH GROWTH OCCUPATIONS [1]

White Collar Occupations:
- Airplane pilots and navigators.
- Architects.
- College presidents, professors and instructors.
- Dentists.
- Designers and draftsmen.
- Engineers.
- Librarians.
- Natural scientists.
- Nurses, professional.
- Personnel and labor relations workers.
- Physicians and surgeons.
- Social, welfare and recreation workers.
- Technicians, electrical and electronic.
- Technicians, medical and dental.
- Technicians, other.
- Salaried managers.
- Cashiers.
- Office machine operators.
- Secretaries, stenographers and typists.
- Stock clerks and storekeepers.

[1] The high growth occupations are those for which the increases listed between 1964 and 1975 are at least one-third greater than the percentage increases projected for total employment (i.e., they are estimated to increase by at least 33% in the benchmark estimate and at least 58% in the estimate for the aspiration goals).

Blue Collar Occupations:
Excavating, grading and road machinery operators.
Attendants, auto service and parking.
Deliverymen and routemen.
Sewers and stitchers, manufacturing.
Service Occupations:
Attendants, hospital and other institutions.
Barbers, hairdressers and cosmetologists.
Charwomen, janitors and porters.
Cooks.
Firemen, fire protection.
Policemen, sheriffs and marshals.
Practical nurses.
Waiters, bartenders and counter workers.

II. MODERATE GROWTH OCCUPATIONS [2]

White Collar Occupations:
Accountants and auditors.
Lawyers and judges.
Pharmacists.
Teachers, elementary.
Teachers, secondary.
Bookkeepers.
Blue Collar Occupations:
Brickmasons, stonemasons and tilesetters.
Cranemen, derrickmen and hoistmen.
Electricians.
Foremen.
Machinists and job setters.
Mechanics and repairmen, auto.
Mechanics and repairmen, other.
Painters, construction and maintenance.
Plumbers and pipefitters.
Stationary engineers.
Toolmakers, diemakers and setters.
Truck and tractor drivers.
Welders and flame cutters.
Laborers, except farm and mine.
Service Occupations: Guards, watchmen and doorkeepers.

III. LOW GROWTH OCCUPATIONS [3]

White Collar Occupations:
Self-employed.
Telephone operators.
Insurance and real estate agents and brokers.
Salesmen and sales clerks, retail trade.
Blue Collar Occupations:
Cabinet makers and pattern makers.
Carpenters.
Linemen and servicemen, telegraph, telephone and power.
Locomotive engineers.
Printing craftsmen.
Tinsmiths, coppersmiths and sheet metal workers.
Assemblers.
Brakemen and switchmen, railroad.
Bus drivers.
Checkers and inspectors, manufacturing.
Filers, grinders and polishers, metal.

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[2] The moderate growth occupations are those for which the projected increases fall between the two other groups (i.e., between 16% and 33% for the benchmark estimate and between 29% and 58% for the aspiration goals).

[3] The low growth occupations are those for which the projected increases are less than two-thirds of the percentage increases in total employment (i.e., they are estimated to increase by less than 16% for the benchmark estimate and less than 29% in the estimate for the aspiration goals).

Blue Collar Occupations—Continued
Laundry and dry cleaning operatives.
Mine operatives and laborers.
Painters, except construction and maintenance.
Taxi drivers and chauffers.
Service Occupations: Private household workers.
Farm Occupations:
Farmers and farm managers.
Farm laborers and foremen.

TABLE 3.—*Educational attainment of employed males 18 years old and older, October 1952, and March 1964* [1]

Occupational group	Percent completing 8 years of elementary school or less		Percent completing 4 years of high school or more	
	October 1952	March 1964	October 1952	March 1964
All occupations	41	26	40	55
White collar workers:				
Professional and managerial workers	17	10	71	81
Clerical and sales workers	17	11	66	75
Blue collar workers:				
Craftsmen and foremen	41	29	34	46
Operatives	50	34	24	38
Laborers [2]	67	47	17	27
Service workers	53	38	27	40
Farm occupations	67	58	21	27

[1] Source: "Educational Attainment of Workers, March 1964" Special Labor Force Report No. 53, U.S. Department of Labor, Bureau of Labor Statistics, 1965, table 6, p. 522.
[2] Excluding farm and mine laborers.

(Whereupon, at 5:45 p.m., the subcommittee adjourned, to reconvene at 9:30 a.m., Tuesday, August 15, 1967.)

EDUCATION LEGISLATION, 1967

TUESDAY, AUGUST 15, 1967

U.S. SENATE,
SUBCOMMITTEE ON EDUCATION OF THE
COMMITTEE ON LABOR AND PUBLIC WELFARE,
Washington, D.C.

The subcommittee met, pursuant to adjournment, at 10 a.m., in room 4200, New Senate Office Building, Senator Wayne Morse, chairman of the subcommittee, presiding.

Members present: Senators Morse, Yarborough, Clark, Javits, and Murphy.

Committee staff present: John S. Forsythe, general counsel; Charles Lee, professional staff member; and Roy H. Millenson, minority staff member.

Senator MORSE. The hearing will come to order.

I want to apologize to Mr. Spector, Mr. Martin, and Mr. Kobler, I fully expected to be here at 9:30. There is another little issue in this country that had to be given first consideration this morning. It is a railroad dispute. I have just come from a conference with regard to that.

Senator Murphy, yesterday we had a fabulous presentation by the three gentlemen now at the witness table, Mr. Spector, Mr. Martin, and Mr. Kobler, of the Responsive Environments Corp., in regard to an instrument that they have developed which they discussed at length and showed us slides on—a talking typewriter short—which is used in helping the students to learn to read. Particularly, they use it in the Brooklyn area but it is not limited to the Brooklyn area. Negroes, Puerto Rican boys and girls, but it is not limited to them, either, and we stayed at the session until quarter of 6 last night, and could not possibly finish with them. I asked them to be back this morning and answer questions.

REPORT ON PROGRAM

In the meantime, Counsel Lee has obtained this report. I don't know what I am reading. I am going to read it, though. It is from the OEO on the "Pupil Response—the Summary of Findings, Responsive Environment Program."

These witnesses testified about this program yesterday afternoon. It was conducted in New York in cooperation with Dr. Donovan, superintendent of schools.

I want the record to show that the Responsive Environments Corp. was not a party at all to the preparation of this report. Counsel tells me they were as much surprised this morning as anyone could be in

regard to the fact that the report is available, and I am delighted to make it a part of the record.

I am going to make the actual report a part of the record.

I am going to read the findings and I have not the slightest idea what the content is but I want you to know that I heard enough questions to know that we ought to be asking some questions about it, this morning, as to the possible use of it as one of the aids in connection with our attempt to make a breakthrough in the literacy problem in the ghettos of this country.

Senator MURPHY. We could use it outside of the ghettos, too.

Senator MORSE. I want to make it clear, I said other students, too. If we could only get something that would help these students of economic disadvantage in the slums of America catch up! The testimony yesterday from other witnesses, Senator, was that these students, coming from the economic homes that they come from, soon find themselves 1, 2, 3, and 4 years behind their age groups in the other schools, so they not only drop out in grade schools, but they drop out in high schools, because they cannot keep up. It carries on into college.

The original question is: Do the pupils exposed to it learn to read better than comparable pupils not so exposed?

His answer is significantly and decisively in the affirmative for background skills, word knowledge, word discrimination and meaningful combinations of words, sentences in the first grade, and significantly in the affirmative with the background skills and general vocabulary, in the a.m. kindergarten in the study. The general vocabulary skills for those pupils attending p.m. kindergarten were not significantly better.

Counsel suggests that I put the rest of the material which goes into some detail and gives statistical analyses into the record at this point and come to the conclusion.

(The material referred to above follows:)

THE PUPIL RESPONSE—A PRELIMINARY SUMMARY OF FINDINGS—RESPONSIVE ENVIRONMENT PROGRAM

INTRODUCTION

January 24, 1967, marked the formal commencement of New York City's responsive environment program sponsored by the Office of Economic Opportunity (contract OEO 1388) at the responsive environment center at 2560 Linden Boulevard, Brooklyn 11208. Approximately six months of preparation had preceded the formal opening, including: extensive architectural planning and construction at the center; installation of responsive environment machinery and related equipment; hiring and training of professional and para-professional personnel; consultation with advisors, consultants and representatives of neighborhood and civil rights groups; and curriculum and program planning based on the most modern educational theories and discovery techniques. Because of the exigencies of time, preliminary research was limited in scope and focussed primarily on the achievement of kindergarten and 1st grade classes that had begun on schedule. Sufficient and appropriate data for statistical analysis were only available for kindergarten and first grade. Results of this research are presented in this report along with subjective evaluations of progress in the other groups.

Experimental and control classes were chosen by the district superintendent from four special service public elementary schools, intermediate school 218 and Thomas Jefferson High School, all in district 19, one of New York City's most deprived areas, where the academic and remedial problems of disadvantaged children are most acute; it was felt that this population would provide a most rigorous test of the efficacy of the responsive environment process within an urban school system.

Although the N.Y.C. responsive environment program is essentially a demonstration of its effectiveness within the framework of a major urban school system, the present pilot research study was designed to test one major hypothesis: that students regularly participating in the entire responsive environment process would learn the skills essential to read better than children in a regular classroom setting. It must be emphasized at this point that the responsive environment process includes a great deal more than the machine; it is a carefully planned total integration of constantly developing curriculum, meaningful experience in the booth, and highly individualized learning situations within the classroom. This research was not designed to focus on the efficacy of any single aspect of the total process, and any such interpretation would be fallacious and unscientific. Currently in the planning stage is a full-scale research program designed to analyze the separate and interaction effects of each phase of the total process for average and atypical pupils. Pending completion of this research at least one year from now, no statements can be made concerning the efficacy of any single isolated aspect of the responsive environment process.

FINDINGS

The original educational question, "Do the pupils exposed to the Edison responsive environment instrument learn to read better than comparable pupils not exposed?" Is answered significantly and decisively in the affirmative for the background skills of word knowledge, word discrimination and meaningful combinations of words (sentences) in the first grade and significantly in the affirmative for the background skills of general vocabulary in the a.m. kindergarten in this study. The general vocabulary skills for those pupils attending p.m. kindergarten were not significantly better.

FIRST GRADE

In the 1st grade there were two classes exposed to the demonstration program. The mean correct answers on the post test for these 39 pupils, after equalization, is 55.59 (grade equivalent = 1.99 from appendix E). There were 4 classes not exposed to the demonstration. The mean correct answers on the post test for these 82 pupils, after equalization, is 46.56 (grade equlvalent = 1.77 from appendix E.) The mean of 9 more correct answers for the 1st grade pupils is significant at the 0.05 level and decisive at the 0.10 level. This difference of 9 more correct answers is across the entire range of pre-test scores (10–42 or grade equivalent approximately 1–1.62 from appendix D) and across the entire range of days absence over the school year (0–48), both ranges at the 0.05 level. Replication of this same study would result in a significant difference 90% of the time. In the 1st grade the sexes were not significant at the 0.05 level.

The post test frequency distributions of the two 1st grade classes exposed to the demonstration program and of the four 1st grade classes not exposed to the demonstration program are graphically represented in figure 5.

KINDERGARTEN

One a.m. kindergarten class which was exposed to the demonstration program has a mean for 23 pupils of 56.34 correct answers on the post test, after equalization (mental age = 6 yrs. 2 months from appendix F). The mean for 99 pupils in the other 5 kindergarten classes (one a.m., four p.m.), after equalization, is 53.78 correct answers on the post test (mental age = 5 yrs. 10 months, from appendix F). The difference of 2.56 more correct answers is significant at the 0.05 level. This difference of 2.56 more correct answers (4 months mental age) is across the entire range of pretest scores. (41–61 or a mental age from 3 yrs. 11 months to 7 yrs. 1 month, from appendix F) at the 0.05 level. Replication of this study would result in a significant difference 80% of the time.

The post test frequency distributions of the one a.m. kindergarten class exposed to the demonstration program and of the 5 other kindergarten classes are graphically represented in figure 6.

One p.m. kindergarten class which was exposed to the program was classified educationally with the other 4 kindergarten classes (see Dr. Welling's report for rationale). The statistical examination of the a.m. and p.m. kindergarten classes exposed to the program shows no significant differences by chronological age, sex, nor number of sessions on the instrument. Moreover the number of days absent was not significant for all the 6 kindergarten classrooms—a contradictory finding to the 1st grade analysis.

PREKINDERGARTEN

In the beginning of May a special program for 30 pre-kindergarten children from Head Start was instituted at the responsive environment center; fifteen of them were assigned to the a.m. session, and fifteen to the p.m. session. The program lasted until the end of June, each child averaging 4 or 5 sessions in the booth.

Since the average age of these children was 4, it was decided that one full week of their time should be devoted to carefully planned and supervised orientation. This important phase of the program was accomplished under the guidance of Dr. Alice Fabian, the psychiatrist assigned to the Head Start group, who worked in close cooperation with responsive environment personnel.

Orientation began with an introduction to the laboratory and the booths. Subsequently children were given the opportunity to record their voices in the classroom in order to prepare them for the experience of hearing the voice on the "talking typewriter". Depending on the specific needs and personality of each child, introduction to the booth and to the machine was accomplished by the booth assistant, the teacher, or by peers. The psychiatrist observed the youngsters during these introductory phases in the laboratory and classroom, conferring with laboratory supervisors and teachers in order to effect the best possible adjustment for each child to the new environment, and, in cases of emotional disturbance, to advise as to the appropriateness of exposure to the machine. In addition, upon return to class during these preliminary sessions, children were encouraged to express their feelings about the laboratory experience, and these were taped and studied by the psychiatrist.

Youngsters were initially allowed free exploration of booth and machine in phase 1, then progressed at their own speed to phase 2—where they mixed and matched random letters with the key voice repeating letters to them. It is worth noting that even within the relatively brief span of 4–5 exposures to the machine, some of these children were able to progress to phase 3 of the machine where they were presented with random letters on cards.

Ninety-eight percent of these children reacted positively to the laboratory and to the machines, and looked forward to their laboratory visits. Some stated they liked to work with letters and took pride in typing their names from their Head Start name plates.

Regrettably, difficulties were encountered in locating a suitable teacher and effecting her release from her previous assignment, which was not accomplished until late April. For this reason pre-kindergarten participation was delayed until May, coming to an abrupt and unforeseen conclusion in the middle of June because of the teacher's unfortunate political involvement. However, within the classroom a complete nursery school program was conducted. Both curriculum and classroom were designed to encourage practice in gross manipulative skills, perceptual and cognitive development, and feelings of increased self-esteem and dignity. Insights gained during this brief period will be helpful in establishing a full-scale ongoing pre-kindergarten program this fall.

JUNIOR HIGH

The junior high school 8th grade experimental group of 25 students (12 boys, 13 girls) was selected from several classes by the principal of intermediate school 218. They may be considered homogeneous in that they were designated as being most in need of help. The principal felt these youngsters would benefit from the program, and, in addition, they had the time to participate fully. The group began at the center on February 24th, their program lasting until June 19th. Suitable program materials were non-existent, a problem that stimulated considerable innovation of technique as well as development of appropriate individualized programs.

According to information supplied by the school, these youngsters entered the program with disparate reading levels ranging from 3rd to 8th grade, the median score being 5th grade. Since very limited materials were on hand to motivate the interests of the group or to meet their needs, a group journalism project was embarked upon. Such a project, usually reserved for brighter pupils within the context of a regular school situation, was to include *all* children in the group, giving each the opportunity to create, contribute, and cherish the fruits of individual and group endeavor.

In the early part of March youngsters were divided into small groups according to their stated interests in sports, occupations, fashions and recreation in order to compile a newspaper. Their discussions, opinions and anecdotes were

recorded on the voice writer and tape recorder, then processed, encoded and illustrated as individual programs for the ERE machines; time was allotted in the lab to type the several drafts of their stories. Interest in the paper was initially high and increased steadily—to the point that the 24 page newspaper developed into a 40-page illustrated magazine with every youngster contributing at least one selection. Mrs. Ida Sternlieb, who has worked closely with several youngsters on this project, reports that they continued working on their stories and art work through the summer after the school year had officially ended. Stories used in the newspaper have also served as bases for comprehension questions framed by students and booth assistants, which are reviewed by the lab supervisors, then mimeographed for distribution and used in the lab.

For those children whose reading level was retarded, high interest programs had to be created in order to motivate the acquisition of basic skills. Programs thematically based on results of an interest inventory survey were written with full cognizance of the socio-economic levels of the child's parents and the community and his general level of adjustment to the school environment. Story material based on common experiences of junior high school boys and girls developed continuity and motivation and served as the vehicle for sequential development of necessary reading skills. In writing for this age group, programmers working for maximum pupil involvement within a framework of self-instruction, attempted full utilization of the machine's capabilities. Visual facilities were totally exploited and audio tracks served not merely for instructions and questions, but also for motivation and illustration through use of instrumental music, singing and sound effects. Heavy emphasis was put on pupil response in order to expand the student's participation and involvement in the learning experience. Continued re-evaluation and revision of these programs was achieved by close surveillance of students' reactions to them as well as information gleaned from printed evaluation forms. Programs based on expressed interests in music, dance, sports, careers, etc., were correlated with student art work in the classroom, the results of which were actually incorporated into the programs for present and future use. Related class discussions and extra-curricular activities were encouraged.

Various criterion tests are presently being designed for each program in order to test terminal results—with emphasis on vocabulary and comprehension. These tests will be used in the classrooms, their purpose being to give the students concrete evidence that they are learning and to stimulate a feeling of success.

As far as suggestions and guidelines for future junior high programming are concerned, emphasis on language arts is essential since part of the language arts class time is spent at the laboratory, and skills involved are basic for all subject areas. Personnel working with this age group have suggested that junior high programs be further developed to include the following:

1. Increased emphasis on comprehension.
2. Dictation of longer passages.
3. More complicated exercises of visual and auditory recall.
4. More vocabulary drawn from meaningful words frequently used in urban social interaction.
5. Continued and expanded use of creative writing focused on stimulating the imagination.
6. Correlation of language arts with science and social science.

Although statistical data are not yet available to measure the actual progress of this group in terms of objective criteria, certain facts are worth mentioning at this time. Mr. Schwartz, the remedial reading teacher at Intermediate School 218, reports that three of his students (Keith Hudson, Bruce Pierce and Vince Napolitano) improved to such a degree that they were able to drop out of remedial reading. Robert Johnson, a non-reader in his home school, was observed reading what he had typed to a booth assistant and was judged to have considerably improved as a result of his participation in the program. Robert also contributed much of the art work for the magazine and commented to one of the programmers, "My parents don't believe all that I'm doing for the class newspaper. This will be one of my treasures for life".

Committee work on the class newspaper resulted in meaningful social interaction for some of these youngsters whose previous experience had been severely limited. Diane Robinson, a Negro student, commented after visiting a fellow student's home, "There was a room without any beds! Nothing but a chandelier in the room!" Accustomed to a crowded apartment with every available space used for beds, her encounter with a different environment proved personally significant and most enlightening. Interestingly, this same youngster had been initially

hostile. With a group of friends she had been invited to tour the center offices and to observe members of the staff in action.

She expressed an interest in secretarial work, and was invited to return during the summer and follow a secretary's routine during an entire day. The invitation was accepted. Her principal, describing her as one of the "hard core cases" in his school, has since informed staff members that she has been "reached".

A boy who had been something of a discipline problem even within the subdued environment of the center, was encouraged to read career information booklets available in the classroom in the area of his interest, aeronautical engineering, and to telephone various sources in order to request further information. The fact that one of the schools sent him a catalogue, no unusual occurrence for a middle class youngster, was for him a unique and meaningful experience which gave him a measure of self-confidence and helped to change his outlook and dispel his hostility. The ramifications of such experiences for disadvantaged youngsters cannot be measured by objective criteria but provide the adults working with them involuable insight into their backgrounds and personalities that, in addition, may be fruitfully used to guide their academic achievement.

SENIOR HIGH SCHOOL

Thirty-four senior high school students were selected from the 10th grade by the principal of Thomas Jefferson High School. Like the junior high group they were homogeneous in terms of the extent of their need for help, which was even greater, since their median reading level was only 4th grade, one grade below the junior high group, though they were at least two years older. Indeed for some children no pre-test data were available because their low reading levels rendered them unable to take the placement test. These students were introduced to the responsive environment program on February 20th, terminating June 12th because of "Regents Week."

Personnel working with these youngsters decided that the newspaper centered programming, though successful with the junior high group, would be inappropriate for these students since they were so deficient in basic skills. Moreover the consensus expressed in the students' own introductory essays indicated generally high motivation for the acquisitions of basic skills, and considerable enthusiasm for the demonstration. Initial programming was therefore geared to remediation of fundamental deficiencies.

On the bases of observations made by Mr. Katz, the teacher assigned to the group, and of results of skill deficiency screening, phonics and word attack material were programmed in sequential steps. The exigencies of time also entered into this decision. This basic "prescription" type of material could be programmed for more students in less time with more assurance that it could be used for remediation of specific deficiencies. Although some programming was done on a completely individualized plan, it was physically impossible and seemed educationally unsound to attempt this daily. Guide lines for programmers based on the screening results were formulated, and material was set up so that individual programs could be matched with individual deficiencies. Programs developed for junior high use were, of course, used with the high school group when deemed appropriate.

Although high interest content programs have been prepared, the need still exceeds the supply in these content areas: TV, science, mechanics, book reviews, electronics, fashions, movies, careers, and space. These programs must also provide for sequential development of necesary reading kills. Moreover, program writers should be available to meet "on the spot" demands for specific interest areas.

Programming for this age group is particularly difficult: Material of significance to an urban teenager must be presented in the basic reading vocabulary of a 3rd or 4th grade student arranged sequentially in order to challenge their abilities and allow them to progress logically. Vocabulary must be meaningful and current, and opportunity for repetition and review must be included without overstepping the threshold of boredom. Up to this point the responsive environment program has been dependent upon part time availability of remedial reading teachers, who are in touch with the academic requirements and limited abilities of these students. It is apparent that if the program is to stem the near flood tide of potential drop-outs and prevent their academic and social alientation, skilled programmers familiar with their academic and personal needs must be employed on a full time basis.

Individualized motivation was resorted to whenever possible: as teachers and laboratory supervisors became acquainted with individual students and trust rapport developed, the youngsters felt free to express their feelings of inadequacy, the unfortunate consequence of their environmental and academic handicaps.

Michael Scott, a 16-yr.-old Negro teenager, untestable and unable to read a word, was asked to help the lab supervisor evaluate a program based on the primary story book, "Whistle for Willie". His immediate response to this request was, "You want *me* to help you! You must be kidding!" Michael was exposed to the card and upon completing the session exclaimed, "Man, I liked those pictures, it was a good story". When asked if he would like to learn to read the book with the supervisor's help, he consented. Three weeks of private sessions ensued, during which word attack skills, spelling, drills, and effective reading were stressed. Michael was then asked to read the story to a group of pre-kindergarten children and proudly and effectively conducted the lesson. An amusing epilogue to this incident was Michael's comment to the lab supervisor about one pre-kindergartner who didn't answer his questions. "He's not too smart, is he?" The boost to this young man's self-esteem by the acquisition and display of his newly-won skills can be neither graphically represented nor included in any mean score. But it happened and deserves mention. For success in the responsive environment program is not only measured by increase in basic reading level, but also by development of responsibility and improvement of self-image.

Another youngster, Renaldo Laboy, Puerto Rican and white, was instructed in the encoding of a program about the fire department that had evolved from a classroom reading experience. Dissatisfied with the information presented in the book, Renaldo went to the local fire department, gathered further information on his own, took photographs and completed his program. His story was edited, and encoded, and he typed the face sheet for it on June 6th, the first program written by a high school student.

Mr. Katz, as high school teacher, enthusiastic about the program from its onset, stated in April that he saw great improvement in his group's reading ability. So convinced was he of the efficacy and value of the program that he offered to consult with program writers and laboratory supervisors. During the summer, offering valuable insights into the needs of the high school population, thus facilitating programming for next year's operations.

Although the students had to be treated with a strong hand at school and enroute, they expressed a desire to function independently at the center, and under the advice and guidance of the staff did so quite successfully. No vandalism whatsoever occurred, and students paid increasing attention to personal grooming, gratifying themselves and all who worked with them in the process.

Mrs. Gitlin, another teacher of the high school group, initially had reservations about the program and considerable misgivings about the permissive atmosphere at the center. At the end of the term she expressed unqualified enthusiasm: "I cannot but feel a sense of dedication displayed by the supervisors and staff towards this program. It has been a wonderful experience for me and a far better one for the students. I do hope this will be continued . . . (as) an ongoing program for Thomas Jefferson".

AFTER SCHOOL CENTER

The responsive environment program's after school center was opened on May 23rd to all students of the community as well as to those in outlying areas willing to travel to the center. Parochial school students were also invited to participate, and a group from St. Fortunata's School is still enrolled in the summer program. Approximately 283 students and adults availed themselves of this opportunity between May 23rd and June 30th; ethnic groups represented were Puerto Ricans, Negroes, Japanese, Italians, Spaniards, and Slavs. Emotionally disturbed high school students were also included. Adults recommended by family and friends had varying needs: Some wished to read better, some to improve their written or spoken english; others wished to advance themselves. All participants were exposed to the machines and programs but participated in informal and non-directive related classroom activities rather than the integrated curriculum presented the other groups. Bell and Howell language masters were used to supplement booth instruction.

Programming for students was essentially similar to that presented regular school groups. Programs most appreciated by the adults were pragmatic in

theme, geared to the acquisition of vocabulary and simple grammar necessary in supermarkets and shops, at the Post Office, in the subway, applying for jobs and drivers' licenses. When skills presented in these more basic lessons were mastered, it was possible to adopt a more conceptual approach—to introduce phonics and sentence structure—motovated by the participants' desire to read newspapers and signs in the street.

Robert Mangine, laboratory supervisor, considers the adult program "very successful". Attendance was excellent; some would occasionally remain an extra hour on their own. Many worked assiduously, the non-English speaking participants displaying considerable interest in phonics.

Involvement of interested adults in the responsive environment program serves to strengthen the bond between center and community, one of the expressed goals of the current demonstration. Moreover, increased facility with English by these adults insures their ultimate integration into the larger community and diminishes the possibility of cultural alienation, thus scattering some of the seeds of the urban ghetto to the wind.

DISCUSSION

It is gratifying to all those concerned with New York City's responsive environment program that despite formidable administrative difficulties and a relatively brief span of operations, pilot research data indicate (1) significant and decisive improvement in reading for pupils in both 1st grade classes exposed to the responsive environment program, as opposed to the four 1st grade classes not exposed, and (2) significant improvement in reading for the a.m. kindergarten class exposed to the program as opposed to the five other classes (four of them not exposed).

An important fact emerging from the data is that for kindergarten a.m. as well as both 1st grade exposed classes, the improvement was significant over *all* levels of ability covered in the tests. This suggests a wide range of usefulness for the responsive environment process, an important factor in any innovation contemplated for a large urban school system.

That post test results for the p.m. kindergarten class were not high enough to set them apart from the four unexposed classes comes as no great surprise. Several factors sharply delineate this group from the more successful a.m. group. In the first place, their total time in school was only two hours as opposed to three hours for the a.m. group who received, therefore, half again as much total school instruction than less successful peers. The whole question of what constitutes sufficient time for an effective educational experience deserves more research than has heretofore been conducted.

Secondly, the mean chronological age for the a.m. group was 5.8 months of age, for the p.m. group only 5.3 months—a difference of 5 months. Furthermore, the mean mental age of the a.m. group as measured by the Peabody test is 6.1, for the p.m. group 5.1, a difference of one full year. Although mathematical comparability was established on these variables in this pilot study, time and funds were not sufficient to gather full data on each child which would have enabled the statiticians to isolate the relevant variables for the group as a whole and for each youngster in particular. Further research, factorial in design, is required in order to accomplish these necessary tasks—for all participating groups.

No statement may be made about the relative effectiveness of exposure to the machine as a function of age or grade since two different tests were used, and the data are not comparable. Days absent, however, did make a difference in the 1st grade, but not in the kindergarten classes.

CONCLUSION

Careful consideration of New York City's demonstration of the responsive environment program reveals a major paradox. The merger of technology and education, feared by many as a dire harbinger of the increasing depersonalization of our society, has accomplished just the opposite. Integration of sophisticated technological machinery and inovations in classroom techniques within the framework of constantly developing curriculum provides children with more personal attention and individualization of instruction than has ever been achieved before.

(A fold-in pertaining to the previous material appears following p. 2130.)

THE PUPIL RESPONSE

Contrasts in First Grade and Kindergarten

RESPONSIVE ENVIRONMENT PROGRAM

Sponsored by: Board of Education of the City of New York

Funded by: Office of Economic Opportunity
Contract Number: 1388

For: Bernard E. Donovan
Superintendent of Schools

Edward A. Welling, Jr.
Director
Responsive Environment Program

July 27, 1967

By: Frederic L. Matthews
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Introduction

The single most important educational question to be answered in this demonstration program is, "Do the pupils exposed to the Edison Responsive Environment (ERE) instrument learn to read better than comparable pupils not exposed?" Before pupils can be instructed in reading, certain background skills must be developed. These background skills include general vocabulary development, word knowledge, word discrimination and meaningful combinations of words (sentences). The analysis in this report is centered upon the effectiveness of this demonstration program in teaching these background skills.

A demonstration program, using the ERE instrument with disadvantaged pupils in the New York City Public Schools, entered its initial phase in January 1967. This demonstration program was wholly funded by the Office of Economic Opportunity.

Data of six kindergarten classrooms and six first grade classrooms from four school buildings in disadvantaged areas in one school district in the New York City Public Schools was collected in the first six months of pupil exposure to the program. Two classrooms in kindergarten from one school building and two classrooms in first grade from another school building were exposed to the demonstration program to the ERE instrument. The classrooms and the schools were identified as follows:

Classroom	School	Number of Pupils	Exposed to ERE
		Kindergarten	
1	A	23	Yes
2	A	19	Yes
3	B	22	No
4	C	24	No
5	A	16	No
6	D	18	No
		First Grade	
7	D	19	Yes
8	D	20	Yes
9	C	11	No
10	C	27	No
11	A	24	No
12	B	20	No

Introduction

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8	D	20	Yes
9	D	11	No
10	C	27	No
11	A	24	No
12	B	20	No

Pupil mobility reduced the number of pupils with complete scores. For the purpose of analysis, the classrooms exposed to the ERE instrument were classified as experimental classrooms and the remaining classrooms were classified as control classrooms.

Shortly before the experimental classes were exposed to the ERE instrument in January 1967, both the experimental and the control classes were tested. All of the pupils were retested during the first two weeks of June 1967 on an alternate form of the same test previously administered. The tests administered were:

Kindergarten

Pre-Test

Peabody Picture Vocabulary Test - Form A
published by American Guidance Service, Inc.
150 questions

Post-Test

Peabody Picture Vocabulary Test - Form B
published by American Guidance Service, Inc.
150 questions

First Grade

Pre-Tests

Metropolitan Achievement Tests - Primary I - Form C
published by World Book Company

Sub-Tests

Word Knowledge	35 questions
Word Discrimination	35 questions
Sentences	13 questions
Total	83 questions

Post-Tests

Metropolitan Achievement Tests - Primary I - Form A
published by World Book Company

Sub-Tests

Word Knowledge	35 questions
Word Discrimination	35 questions
Sentences	13 questions
Total	83 questions

In addition to these tests, the following tests were administered in June 1967 to two kindergarten classes.

Metropolitan Achievement Tests - Primary I - Form C
published by World Book Company

Sub-Tests

Word Knowledge	35 questions
Word Discrimination	35 questions
Total	70 questions

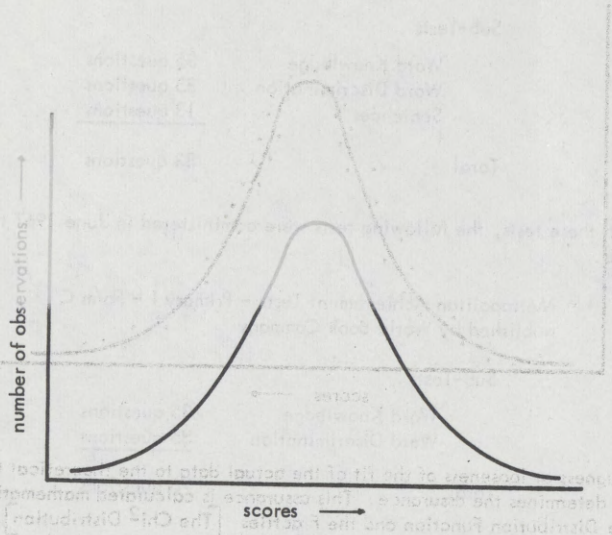
The mathematical models for the analyses are detailed in a series of references at the end of this report. Most specific references are to one book for simplicity. The general mathematical analysis is the analysis of residual variances. Some brief explanation of the statistical principles used may be helpful in following the report of the analysis and the conclusions which can be drawn.

Suppose that there is a series of observations or scores on one test. These scores can be placed in order. The number of observations for each score is the frequency of that score. The frequency distribution of the scores is the number of observations for each score or for each uniform grouping of scores on the test. There are many different types of frequency distributions. Of major interest is the special type of frequency distribution with few relatively high scores, few relatively low scores and most of the scores clustering around the middle. This special type of frequency distribution, illustrated in Figure 1, is the Laplace-Gauss normal frequency distribution (Central Limit Theorem, Ref. 1, p. 188).

- 4 -

Figure 1

Theoretical Laplace-Gauss Normal Frequency Distribution

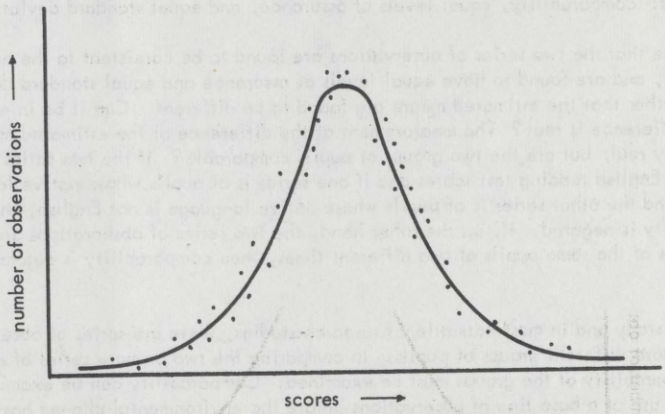


If the frequency distribution of the series of scores is tested and found to be consistent to the Laplace-Gauss normal frequency distribution, then many analyses are possible since the mathematical development of the theoretical normal frequency distribution has been extensive (Normal Distribution, Ref. 1, p. 199).

Experimentally, it can be determined whether or not the actual data, or series of observations, is consistent to the theoretical normal frequency distribution (Comparison of an Observed Grouped Distribution and a Theoretical Distribution, Ref. 1, p. 742).

Figure 2

Actual Data Compared to Theoretical Normal Frequency Distribution



The snugness or looseness of the fit of the actual data to the theoretical frequency distribution determines the assurance. This assurance is calculated mathematically (Cumulative Distribution Function and the Fractiles [The Chi^2 Distribution], Ref. 1, p. 256). If the fit is snug, i.e., the points are close to the theoretical, then the assurance, or the level of assurance, is high. Conversely, if the fit is loose, i.e., the points are far from the theoretical, then the assurance, or the level of assurance, is low. If desired, the level of assurance can be set lower than the assurance, but it cannot be set higher than the assurance. In education, the usual level of assurance is the 0.05 level.

Suppose the series of observations has been found to be consistent to the theoretical normal frequency distribution and the level of assurance has been determined. An estimated mean or average (Confidence Limits for Mean, Ref. 1, p. 239) and an estimated standard deviation (the square root of the calculated variance of the scores around the estimated mean) (Confidence Limits for the Variance, Ref. 1, p. 286) can be calculated. The confidence limits of the estimated mean and estimated standard deviation must be equal to or greater than the level of assurance.

Suppose there is another series of different and independent observations. Suppose that this series of observations has been tested and found to be consistent to a theoretical normal frequency distribution and the assurance has been determined as before. To compare the two estimated means in an exact statistical analysis, there are three conditions which must be met: comparability, equal levels of assurance, and equal standard deviations.

Suppose that the two series of observations are found to be consistent to the normal distribution, and are found to have equal levels of assurance and equal standard deviations. Suppose further that the estimated means are found to be different. Can it be inferred that this difference is real? The measurement of the difference of the estimated means is superficially real; but are the two groups of pupils comparable? If the two series of observations are English reading test scores and if one series is of pupils whose native language is English and the other series is of pupils whose native language is not English, then comparability is negated. If, on the other hand, the two series of observations are two observations of the same pupils at two different times, then comparability is automatically assured.

In this study and in most educational research studies, there are series of observations on two or more different groups of pupils. In comparing the two or more series of observations, comparability of the groups must be examined. Comparability can be examined through the use of a base line of observations before the environmental change has occurred (pre-test). If the groups are in fact equivalent, then the series of observations after the environmental change has occurred (post-test) can be examined with assurance of comparability of the groups. If the original groups are known to be, or are calculated to be, different initially (pre-test), then there is a mathematical procedure which can be used to equalize the initial differences of the two or more groups. Use of this procedure assures comparability for the mathematical examination of the series of observations after the environmental change has occurred (post-test) (Comparison of Two Regressions, Ref. 1, p. 571). Actually, the use of the mathematical procedure is always preferred whenever possible for two reasons. The assured comparability of two or more groups and the possibility of a reduction in redundancy provide a more exact measurement of the effect of an environmental change.

If there are two or more series of observations or groups, then the lowest level of assurance obtained is the highest level of assurance which can be used in the analysis. A still lower level of assurance may be used if necessary.

If there are two or more series of observations or groups, then the standard deviations must be equal (A Test for the Equality of Several Theoretical Variances, Ref. 1, p. 290). There can be a relaxation of the equal variance restriction, but this relaxation is limited by another mathematical procedure (Power Function, Ref. 1, p. 425).

BOARD OF EDUCATION CITY OF NEW YORK
RESPONSIVE ENVIRONMENT PROGRAM

OBSERVATIONS

First Grade and Kg have dissimilar tests

Subdivide

First Grade

Compute orthogonal regression post- = a pre- + b abs. + c
Tentative assumptions:
1. Normal distribution
2. Assurance 0.05 level
3. Linearity

Rectification of truncation of absences for existence

pre- - signif.
abs. - signif.

post- = a pre- + b abs. + c (converted to orig. units)

Compute residuals

Order pre-test and subdivide in 4 ~ equal parts

$(chi)^2$ test for consistency to normal distrib. for 4 parts and total residuals

Assurance established

One-way classification variance analysis for 4 subclasses inc. Bartlett test and power test for underlying principles of equal variance
Linearity established to order of cubic

Analysis of variance, unequal subclasses for sexes and classrooms

sexes - not signif.
classrooms - signif.

post- vs. pre- correlation analysis: not equal

Components of variance model

Restructure one-way classification of variance for 6 subclasses (6 classrooms)

Scheffe's contrast for sum of 2 exposed compared to sum of 4 non-exposed classrooms

Significant contrast

Restructure one-way classification of variance for 2 subclasses
group 1 - exposed
group 2 - not exposed

group 1 - exposed is signif. and decisive non-central F is significant

Kg

Compute orthogonal regression post- = a pre- + b abs. + c
Tentative assumptions:
1. Normal distribution
2. Assurance 0.05 level
3. Linearity

Rectification of truncation of absences for existence

pre- - signif.
abs. - not signif.

post- = a pre- + c (converted to orig. units)

Compute residuals

Order pre-test and subdivide in 4 ~ equal parts

$(chi)^2$ test for consistency to normal distrib. for 4 parts and total residuals

Assurance established

One-way classification variance analysis for 4 subclasses inc. Bartlett test and power test for underlying principles of equal variance
Linearity established to order of cubic

Analysis of variance, unequal subclasses for sexes and classrooms

sexes - not signif.
classrooms - not signif.

post- vs. pre- correlation analysis: equal

Covariance analysis for 6 classrooms including Bartlett and power tests for equal variances
t test for equal slopes

Common estimate of slope signif. diff. from mean regressions

Scheffe's contrast; covariance analysis comparing one A.M. exposed classroom to the other 5 classrooms

Significant contrast

Restructure one-way classification of variance for 2 subclasses
group 1 - A.M. exposed classroom
group 2 - other 5 classrooms

group 1 - A.M. exposed is signif.
non-central F is not signif.

Compute 2 regressions
1. A.M. exposed classroom
2. Other 5 classrooms

Bartlett test of residuals of each regression for equal variance

t test for equality of slopes

t test for equality of intercepts - signif.
non-central t is 80%

Sponsored by: Board of Education of the City of New York

Funded by: Office of Economic Opportunity
Contract Number: 1388

Statistical Design of Analysis by
Frederic L. Matthews, Ph. D.
STACO - statistical consultants
80 Cornwell Avenue
Williston Park, New York
July 27, 1967

For: Bernard E. Donovan
Superintendent of Schools

Edward A. Welling, Jr.
Director
Responsive Environment Program

Note: Final pair of regressions are parallel - all pupils are equalized for the pre-test

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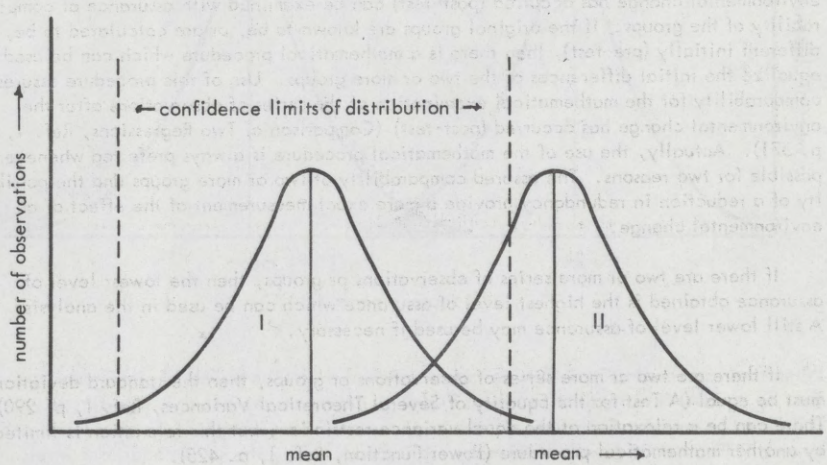
Supplementary Kg analysis of 2 exposed classrooms: 4 x 4 matrix - post-, pre-, chron. age, # of sessions - eliminating pre-test in matrix, partial correlation between post-, chron. age, # of sessions

Suppose then there are two or more series of observations which have met the basic conditions: consistency to the theoretical normal frequency distribution, comparability, an established level of assurance and equal standard deviations. The means of these two or more series of observations can now be compared with mathematical exactitude.

The first step of the comparison is to assume that the means are equal (null hypothesis) and mathematically test if this assumption is accepted (means are equal) or rejected (means are not equal). Having established the level of assurance and, therefore, the confidence limits of both the standard deviations and the means, the two or more means can be compared (Distribution of the Means, Ref. 1, p. 219). In this comparison, the level of confidence, the absolute standard deviation of the series of observations and the number of total observations are part of the mathematical procedure. Figure 3 illustrates the comparison of the means of distributions I and II. Both distributions met the conditions of normal distribution, comparable groups and equal standard deviations.

Figure 3

Comparison of the Means of Two Normal Frequency Distributions

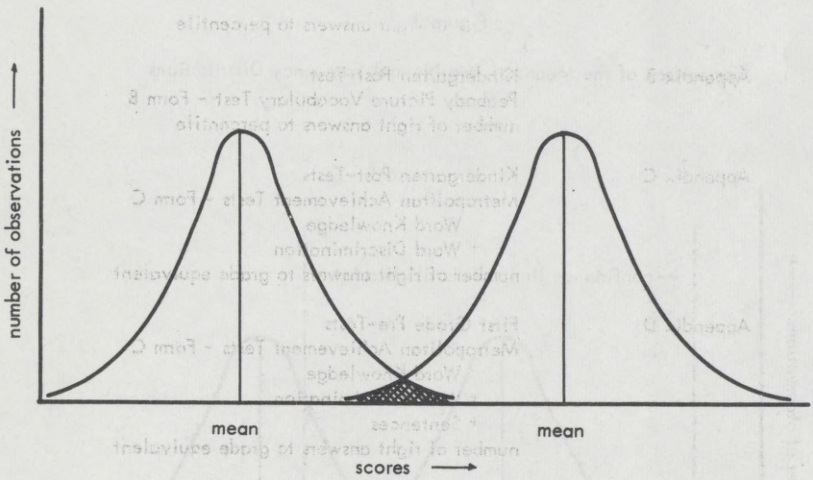


It is immediately apparent that the mean of distribution II is outside the confidence limits of distribution I. The null hypothesis of equal means is rejected; i.e., there is a significant difference. Distribution II lies outside the confidence limits of distribution I more than 50% of the time. Replications of distributions I and II, meeting the same conditions as distributions I and II, would also have means which are significantly different more than 50% of the time.

Figure 4 illustrates another type of comparison of means in which the difference of the means is much larger.

Figure 4

Comparison of the Means of Two Normal Frequency Distributions



When the mathematically determined cross-hatched area (The u-Test of significance, Ref. 1, p. 224) is as small as shown in Figure 4, the means are not only significantly different but are also decisively different. If the confidence limits of distributions I and II were 95% (or 0.05 level), then many replications having the same conditions would reject the null hypothesis (equal means) 95% of the time.

In this study, observations for a total of 122 pupils in the kindergarten and 121 pupils in the first grade were analyzed. There were small numbers of observations in the subdivisions of the analyses. When small numbers of observations are analyzed, differences between means must be relatively large to be mathematically significant (The t Distribution, Ref. 1, p. 388).

The analyses were performed using the composite number of correct answers on the specific pre- and post-tests. The original data, coded by identification number and class, for the 243 pupils with complete scores is reported in an appendix. The calculated basic data for the six kindergarten classes, the total kindergarten, the six first grade classes and the total first grade are reported in another appendix. For interpretation, conversion tables of raw score to percentile, grade equivalent or mental age were developed from the publishers' manuals and are reported in other appendices. Appendices A to H are as follows.

Appendix A	Kindergarten Pre-Test Peabody Picture Vocabulary Test - Form A number of right answers to percentile
Appendix B	Kindergarten Post-Test Peabody Picture Vocabulary Test - Form B number of right answers to percentile
Appendix C	Kindergarten Post-Tests Metropolitan Achievement Tests - Form C Word Knowledge + Word Discrimination number of right answers to grade equivalent
Appendix D	First Grade Pre-Tests Metropolitan Achievement Tests - Form C Word Knowledge + Word Discrimination + Sentences number of right answers to grade equivalent
Appendix E	First Grade Post-Tests Metropolitan Achievement Tests - Form A Word Knowledge + Word Discrimination + Sentences number of right answers to grade equivalent

Appendix F	Kindergarten Test Peabody Vocabulary Test - Forms A and B number of right answers to mental age
Appendix G	Original Data
Appendix H	Calculated Basic Data

Findings

The original educational question, "Do the pupils exposed to the Edison Responsive Environment (ERE) instrument learn to read better than comparable pupils not exposed?", is answered: significantly and decisively in the affirmative for the background skills of word knowledge, word discrimination and meaningful combination of words (sentences) in the first grade, and significantly in the affirmative for the background skill of general vocabulary in the A.M. kindergarten in this study. The general vocabulary skill for those pupils attending P.M. kindergarten is not significant.

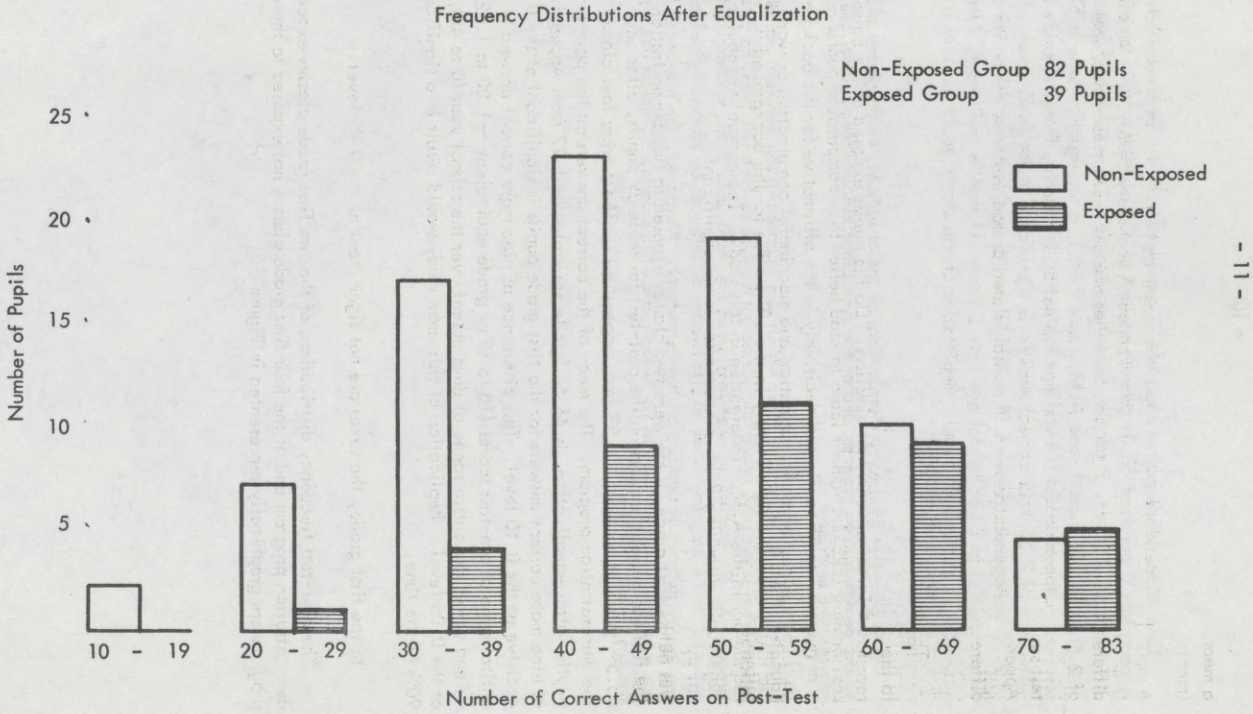
In the first grade, there were two classes exposed to the demonstration program. The mean of the correct answers on the post-test for these 39 pupils, after equalization, is 55.59 (grade equivalent = 1.99 from Appendix E). There were four classes not exposed to the demonstration program. The mean of the correct answers on the post-test for these 82 pupils, after equalization, is 46.56 (grade equivalent = 1.77 from Appendix E). The mean of nine more correct answers for the first grade pupils is significant at the 0.05 level and decisive at the 0.10 level. This difference of nine more correct answers is across the entire range of pre-test scores (10 to 42 or grade equivalent ~1.00 to 1.62 from Appendix D) and across the entire range of days absent over the school year (0 to 48), both ranges at the 0.05 level. Replication of this same study would result in a significant difference 90% of the time.

In the first grade, the sexes are not significant at the 0.05 level.

The post-test frequency distributions of the two first grade classes exposed to the demonstration program and of the four first grade classes not exposed to the demonstration program are graphically represented in Figure 5.

Figure 5

Exposed and Non-Exposed Groups
First Grade Metropolitan Post-Tests: Word Knowledge, Word Discrimination and Sentences



One A.M. kindergarten class which was exposed to the demonstration program has a mean for 23 pupils of 56.34 correct answers on the post-test, after equalization, (mental age = 6 years, 2 months, from Appendix F). The mean for 99 pupils in the other five kindergarten classes (one A.M., four P.M.), after equalization, is 53.78 correct answers on the post-test (mental age = 5 years, 10 months, from Appendix F). The difference of 2.56 more correct answers is significant at the 0.05 level. This difference of 2.56 more correct answers (4 months in mental age) is across the entire range of pre-test scores (41 to 61 or mental age from 3 years, 11 months to 7 years, 1 month, from Appendix F) at the 0.05 level. Replication of this study would result in a significant difference 80% of the time.

The post-test frequency distributions of the one A.M. kindergarten class exposed to the demonstration program and of the five other kindergarten classes are graphically represented in Figure 6.

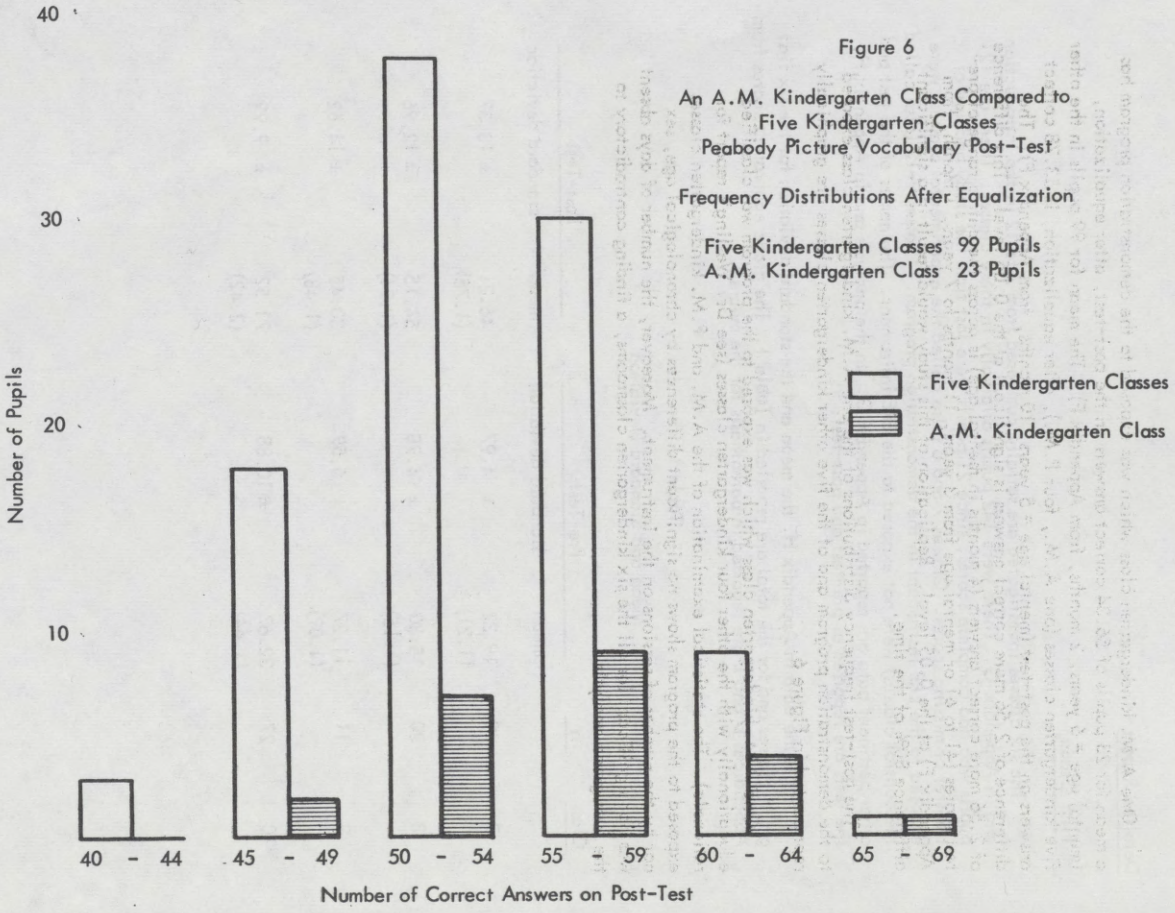
One P.M. kindergarten class which was exposed to the program was classified educationally with the other four kindergarten classes (see Dr. Welling's report for rationale). The statistical examination of the A.M. and P.M. kindergarten classes exposed to the program shows no significant differences by chronological age, sex nor by the number of sessions on the instrument. Moreover, the number of days absent was not significant for all the six kindergarten classrooms, a finding contradictory to the first grade analysis.

Figure 6

An A.M. Kindergarten Class Compared to
Five Kindergarten Classes
Peabody Picture Vocabulary Post-Test

Frequency Distributions After Equalization

Five Kindergarten Classes 99 Pupils
A.M. Kindergarten Class 23 Pupils



Detailed Report

First Grade

The six classes investigated are serially numbered from 7 to 12 in the Introduction and in Appendix G. There were 142 pupils originally in these classes. There are 121 pupils who had complete scores, since 21 pupils were lost from the study because of transfer or missing scores. Classes 7 and 8 (also called the experimental classes) were exposed to the ERE instrument in the demonstration program. Classes 9-12 (also called the control classes) were not exposed to the ERE instrument. The names of the test and other pertinent data are reported in Appendix G. In the analysis and in Appendix H, the tests are reported as pre-test and post-test.

From the data in Appendix H, the mean and the standard deviation for the six first grade classes and for the total are reported in Table 1. The grade equivalent scores from Appendices D and E are reported in parenthesis for the means.

Table 1

Mean and Standard Deviation

Class	n	Pre-Test		Post-Test	
		mean	standard deviation	mean	standard deviation
7	19	19.32 (1.21)	± 4.97	46.21 (1.75)	± 13.37
8	20	15.30 (1.15)	± 4.98	54.15 (1.94)	± 12.96
9	11	11.27 (1.09)	± 5.59	30.45 (1.43)	± 14.62
10	27	32.67 (1.44)	± 10.88	71.52 (2.42)	± 9.99

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Table 1

(continued)

Class	n	Pre-Test		Post-Test	
		mean	standard deviation	mean	standard deviation
11	24	23.33 (1.27)	± 8.70	49.79 (1.84)	± 12.37
12	20	16.00 (1.16)	± 6.66	28.20 (1.39)	± 10.93
Total	121	21.15 (1.25)	± 10.38	49.47 (1.82)	± 19.09

The mean of total days absent during the school year for the six first grade classes and the total are reported in Table 2.

Table 2

Absences

Class	7	8	9	10	11	12
Mean Absence per Class	23	21	27	12	15	23

Mean Total Absence = 19

The zero order correlations of the post- and pre-test for the six classes and the total, calculated from Appendix H, are reported in Table 3.

Table 3

Post-Test Versus Pre-Test Zero Order Correlations

Class	7	8	9	10	11	12	Total
Correlation	0.047	-0.259	0.042	0.672	0.617	0.636	0.621

The zero order correlations of the post-test versus absences and the pre-test versus absences for the total first grade are reported in Table 4.

Table 4

Post-test vs. absences correlation	= - 0.405
Pre-test vs. absences correlation	= - 0.210

Because of the evident disparity of the correlations in Table 3, covariance analysis is not appropriate. Moreover, the frequency distribution of the data of the absences shows severe truncation. The rectification of an assumed normal distribution using the method of A.C. Cohen, Jr. (A.C. Cohen, Jr. "Estimating the Mean and Variance of Normal Populations from Singly Truncated and Doubly Truncated Samples," Ann. Math. Statistics 21, pp. 557-569. 1950) produces a mean of zero and a standard deviation of 24.61 ($\overline{1}$.96 times the standard deviation is the range of absences reported in the findings). The recomputed correlations are reported in Table 5.

Table 5

Recomputed Correlations

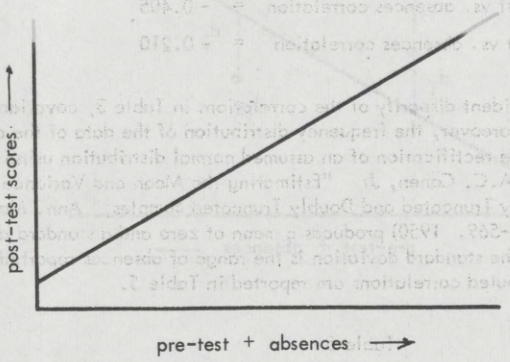
Post-test vs. absences correlation	= - 0.241
Pre-test vs. absences correlation	= - 0.125

The partial correlation between the post-test and the absences using the correlations in Table 5 and the total correlation in Table 3 is - 0.213 (Partial Correlation Coefficients, Ref. 1, p. 624). This correlation is significant at the 0.05 level. A multiple linear regression of the total data of the post-test related to the pre-test and the absences is

computed (Linear Regression Analysis with Two Independent Variables, Ref. 1, p. 627). No assumption other than mathematical existence is made regarding the two independent variables (pre-test and absences). The multiple linear regression is:

$$E\,(\text{Post-/Pre-}) = 1.0027\,(\text{Pre-}) - 0.4695\,(\text{Abs.}) + 37.3023$$

Figure 7

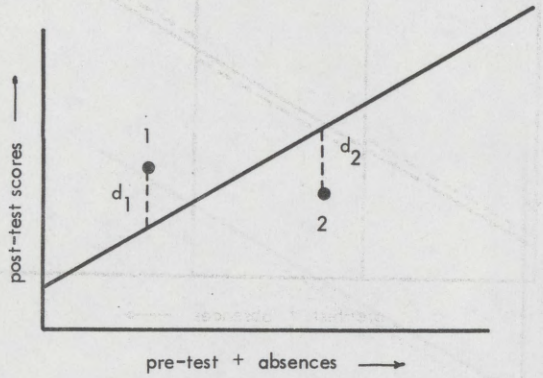


The residual (d_i) for each pupil is:

$$d_i = \text{Actual Post-} - E\,(\text{Post-/Pre-})$$

Figure 8

Linear Regression with Residual

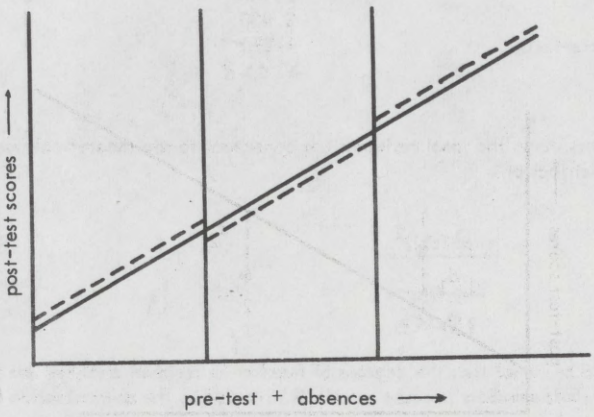


The residuals are tentatively assumed to be normally distributed about the regression and the linearity of the regression is also tentative assumed. The standard deviation of the residuals is ± 14.07.

To test the normality and the linearity, subdivide the ordered total pre-test data into four approximately equal parts. Figure 9 illustrates a subdivision into three parts.

Figure 9

Linearity Test



For each subdivision, test the consistency of the residuals to a theoretical normal distribution by a $(chi)^2$ test. Three of the four subdivisions are consistent to, and one subdivision is significantly but not decisively different from, a theoretical normal frequency distribution (Comparison of an Observed Grouped Distribution and a Theoretical Distribution, Ref. 1, p. 742).

Table 6

Residuals Subdivided According to Pre-Test	$(chi)^2$	$\sum f$
I (highest pre-tests)	1.351	1
II	2.947	2
III	8.830	3
IV (lowest pre-tests)	~~1.876~~ 5.028	2

The $(chi)^2$ test shows the total residuals are consistent to the theoretical normal frequency distribution.

total $(chi)^2$	f
~~15.004~~ 18.156	13

It should be noted that the degrees of freedom in residual analyses are not necessarily whole numbers because a ratio is involved in the determination of the degrees of freedom.

The linearity is first tested for equal variance of the residuals (Test of Equality for Four Theoretical Variances, Ref. 1, p. 290). The actual $(chi)^2$ is 10.78 with 3 degrees of freedom. The theoretical $(chi)^2$ is 7.81. The variances of the four subdivisions are significantly, but not decisively, different. Therefore, variance analysis for the test of linearity is permitted (The Effects of Departures from Underlying Assumptions, Ref. 7, p. 331).

The means of the residuals for each of the four subdivisions for the one-way classification of variance analysis are computed (A Test for the Equality of the Means of Four Normal Populations with the Same Variance, Ref. 1, p. 423). The actual $F = 0.68$. The theoretical $F_{3,13}$ ~~for 3 degrees of freedom~~ at the 0.05 level is ~~7.81~~ 3.20. Therefore, the regression is linear. In recapitulation, the residuals are normally distributed with an assurance at least at the 0.05 level and the regression is linear to the order of the cubic.

Analysis of variance of the residuals with unequal subclasses (Unequal Numbers in Subclasses, the Analysis of Variance, Ref. 4, p. 220) is computed for the sex (2) and the classrooms (6). There are 6 x 2 = 12 cells. The independent estimate is the within subclasses.

Table 7

Analysis of Variance for All Subclasses

Variation	SS	f	MS	F
Total	23,356.210466	118		
Without subclasses	9,084.924640	11	825.902	6.192
Within subclasses	14,271.285826	107	133.377	

The without subclasses' F is significant. Continuation of the analysis shows no significant difference of the sexes. The F number of the six classrooms is 13.04. The theoretical $F_{5,107} = 2.28$. The six classrooms are significant.

A restructure of a one-way classification analysis of variance of the six classrooms (A Test for the Equality of the Means of Six Normal Populations with the Same Variance, Ref. 1, p. 423) is computed.

Table 8

Analysis of Variance for the Six Classrooms

Variation	SS	f	MS	F
Total	23,356.210466	118		
Without sets	8,832.008175	5	1766.402	13.742
Within sets	14,524.202291	113	128.533	

The without sets' MS is the estimate for Scheffe's contrast method (Contrasts. The S-Method of Judging All Contrasts, Ref. 7, p. 66) for the desired multiple comparison. The unweighted means of classrooms 7 and 8 are contrasted to the unweighted means of

classrooms 9-12. This contrast is 10.007 which is greater than the theoretical contrast of 6.956. There is a significant difference among all contrasts in comparing the exposed classrooms to the non-exposed classrooms. The two exposed classrooms are pooled and the four non-exposed classrooms are pooled.

A one-way classification of variance for the two groups is now computed.

Table 9

Analysis of Variance for the Two Groups

Variation	SS	f	MS	F
Total	23,356.210466	118		
Without sets	2,151.523049	1	2,151.523	11.871
Within sets	21,204.687417	117	181.237	

The exposed classroom group with a residual mean of + 6.114 is significantly better than the non-exposed classroom group with a residual mean of -2.908 at the 0.05 level. Moreover, this significant difference of the two groups is also decisive at the 0.10 level (Power Test, Ref. 1, p. 425). This difference is illustrated in Figure 5 on page 11 of this report.

Other analyses not germane to this study will be exploited in the continuing statistical investigation of the data.

Kindergarten

The six classes investigated are serially numbered from 1 to 6 in the Introduction and in Appendix G. There were 134 pupils originally in these classes. There are 122 pupils who had complete scores, since 12 pupils were lost from the study because of transfer or missing scores. Classes 1 and 2 (also called the experimental classes) were exposed to the ERE instrument in the demonstration program. However, Class 2, the P.M. experimental kindergarten class, was classified educationally with Classes 3-6 (also called the control classes) (See Dr. Welling's report for rationale.) Therefore, the analysis compares the one A.M. experimental kindergarten Class 1 to the remaining Classes 2-6. The names of the tests and other pertinent data are reported in Appendix G. In the analysis and in Appendix H, the tests are reported as pre-test and post-test.

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From the data in Appendix H, the mean and standard deviation for the six kindergarten classes and for the total are reported in Table 10. The reported means can be converted easily to mental age by using Appendix F.

Table 10

Mean and Standard Deviation

Class	n	Pre-Test		Post-Test	
		mean	standard deviation	mean	standard deviation
1	23	55.65	± 4.90	59.74	± 5.42
2	19	49.58	± 8.07	52.58	± 8.23
3	22	45.64	± 8.20	50.00	± 6.70
4	24	50.83	± 7.22	55.17	± 6.73
5	16	55.06	± 6.24	56.06	± 5.90
6	18	50.00	± 6.28	51.44	± 7.77
Total	122	51.04	± 7.62	54.26	± 7.46

An analysis of the absences, using the rectification of the correlations by the same method as reported in the first grade, showed the absences are not related to the pre- and post-tests in these kindergarten classes in this study.

The zero order correlations of the post- and pre-tests for the six classes and the total, calculated from Appendix H, are reported in Table 11.

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Table 11

Post-Test Versus Pre-Test Zero Order Correlations

Class	1	2	3	4	5	6	Total
Correlation	0.734	0.734	0.624	0.748	0.611	0.810	0.751

Since the correlations are equal by test (The Distribution of the Correlation Coefficient, Ref. 1, p. 610), covariance analysis is the preferred method. The six regressions are computed and compared (Comparison of Several Regression Lines, Ref. 1, p. 579). The six regressions are reported in Table 12.

Table 12

Regressions

Class 1: E (Post-/Pre-) = 0.8135 (Pre-) + 14.464
Class 2: E (Post-/Pre-) = 0.7492 (Pre-) + 15.430
Class 3: E (Post-/Pre-) = 0.5095 (Pre-) + 26.747
Class 4: E (Post-/Pre-) = 0.6968 (Pre-) + 19.747
Class 5: E (Post-/Pre-) = 0.5777 (Pre-) + 24.251
Class 6: E (Post-/Pre-) = 1.0030 (Pre-) + 1.295

The standard deviations of the residuals of the six regressions are equal by test (A Test for the Equality of Six Theoretical Variances, Ref. 1, p. 290). The slopes of the six regressions are equal. The slope of the regression of the means is not equal compared to the common estimate of the slope (Comparison of Several Regression Lines, Ref. 1, p. 579). Therefore, the six parallel regressions are not identical. A supplementary analysis is computed. The over-all regression of the kindergarten is:

E (Post-/Pre-) = 0.7369 (Pre-) + 16.650

The residuals of this over-all regression were subdivided into four approximately equal parts according to the ordered pre-tests, exactly as in the first grade analysis.

Table 13

Residuals Subdivided According to Pre-Test	$(chi)^2$	f
I (highest pre-tests)	1.927	2
II	0.270	1
III	0.689	2
IV (lowest pre-tests)	4.019	2

The $(chi)^2$ test shows the residuals normally distributed in all four subdivisions. The $(chi)^2$ test shows the total residuals consistent to the theoretical normal frequency distribution.

total $(chi)^2$	f
6.905	12

The linearity of the kindergarten regression is tested by exactly the same methods reported for the first grade analysis. The variances of the four subdivisions are equal since the actual $(chi)^2$ is 4.556 with 3 degrees of freedom which is well within the theoretical $(chi)^2$ of 7.81. One-way classification of variance analysis for the four subdivisions produces an actual F = 0.091, well within the theoretical $F_{3,\infty}$ ~~for 3, degrees of freedom~~ at the 0.05 level. Therefore, the regression is linear. In recapitulation, the residuals are normally distributed with an assurance at least at the 0.05 level and the regression is linear to the order of the cubic.

Analysis of variance of the residuals with unequal subclasses is computed for the sex (2) and the classrooms (6) exactly as in the first grade analysis.

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Table 14

Analysis of Variance for All Subclasses

Variation	SS	f	MS	F
Total	2937.316680	120		
Without subclasses	606.896062	11	55.172369	2.581
Within subclasses	2330.420618	109	21.380005	

The without subclasses F is significant. Continuation of the analysis shows no significant difference of the sexes and of the six classes. The inference is that there must be grouping of the classrooms to explain the evident difference. The obvious comparison is of the one A.M. experimental kindergarten Class 1 with the combination of the other five kindergarten classrooms. The preferred method is by comparison of the two regressions: Class 1 and the combination of Classes 2-6 (Comparison of Two Regression Lines, Ref. 1, p. 571). The two computed regressions are reported in Table 15.

Table 15

Regressions

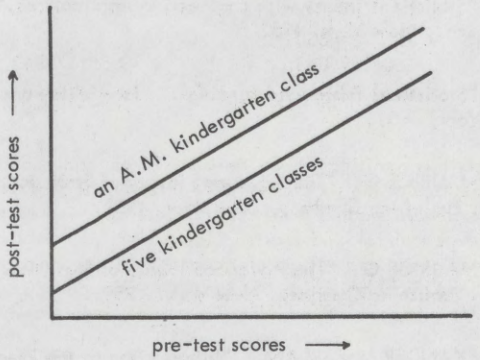
Class 1: E (Post-/Pre-) = 0.8135 (Pre-) + 14.464

Classes 2-6: E (Post-/Pre-) = 0.6839 (Pre-) + 18.816

Using the same method as in the first grade analysis, the residual variances are equal. The actual $(chi)^2$ is 1.81 which is within the theoretical $(chi)^2$ of 1.82. The slopes are equal, since the actual t = 0.586 within the theoretical t of 1.98. The two parallel regressions are significantly different. The actual t = 2.39. Using the normal distribution, the power test (The u-Test of Significance, Ref. 1, p. 224) has a probability of 0.80. That is to say, replication of the same study would result in a significant difference 80% of the time. Figure 10 graphically illustrates that the one A.M. kindergarten class has 2.56 more correct answers across the entire range of pre-test scores.

Figure 10

Two Parallel Linear Regressions



A comparison of Class 1 and Class 2 for the pre-test, post-test, number of sessions on the ERE instrument and age through a 4 x 4 correlation matrix is reported (Vector Algebra, Ref. 7, p. 371). After eliminating the pre-test, no other correlation is significant.

Other analyses not germane to this study will be exploited in the continuing statistical investigation of the data.

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Appendix A

Kindergarten Pre-Test

Peabody Vocabulary Test - Form A

Total Questions - 150

Average Age - 5 Years, 7 Months

Right Answers	Percentile	Right Answers	Percentile
37	1	55	47
38	3	56	54
39	3	57	62
40	3	58	68
41	4	59	73
42	6	60	76
43	7	61	49
44	8	62	83
45	10	63	85
46	13	64	88
47	16	65	90
48	18	66	92
49	21	67	94
50	24	68	96
51	25	69	97
52	30	70	98
53	37	71	98
54	43	72	99

Appendix B

Kindergarten Post-Test

Peabody Vocabulary Test - Form B

Total Questions - 150

Average Age - 6 Years, 1 Month

Right Answers	Percentile	Right Answers	Percentile
36	1	54	41
37	2	55	48
38	2	56	54
39	3	57	62
40	3	58	70
41	3	59	76
42	3	60	81
43	4	61	84
44	5	62	87
45	6	63	89
46	8	64	91
47	10	65	93
'48	13	66	94
49	16	67	96
50	20	68	97
51	25	69	98
52	30	70	98
53	35	71	99

Appendix C

Kindergarten Post-Tests

Metropolitan Achievement Tests - Form C

Word Knowledge - 35 Questions

Word Discrimination - 35 Questions

Assumptions: The percent right answers is equal to the same standard score in Word Knowledge and Word Discrimination (correlation = 0.99). The logarithm of grade equivalents is expressed by a linear function of the standard scores from 21 to 60 (correlation = 0.99).

$$\log_{10} \text{Grade Equivalent} = 0.006105 \text{ Composite Right Answers} - 0.012328$$

Composite Right Answers	Grade Equivalent	Composite Right Answers	Grade Equivalent
2	1.00	18	1.25
3	1.02	19	1.27
4	1.03	20	1.29
5	1.04	21	1.31
6	1.06	22	1.32
7	1.07	23	1.35
8	1.09	24	1.36
9	1.10	25	1.38
10	1.12	26	1.40
11	1.14	27	1.42
12	1.15	28	1.44
13	1.17	29	1.47
14	1.19	30	1.49
15	1.20	31	1.51
16	1.22	32	1.53
17	1.24	33	1.55

Appendix C
(continued)

Composite Right Answers	Grade Equivalent	Composite Right Answers	Grade Equivalent
34	1.57	48	1.91
35	1.59	49	1.94
36	1.62	50	1.97
37	1.64	51	2.00
38	1.66	52	2.02
39	1.69	53	2.06
40	1.71	54	2.08
41	1.73	55	2.11
42	1.76	56	2.14
43	1.78	57	2.17
44	1.81	58	2.20
45	1.84	59	2.23
46	1.86	60	2.26
47	1.88		

Appendix D

First Grade Pre-Tests

Metropolitan Achievement Tests - Form C

Word Knowledge - 35 Questions

Word Discrimination - 35 Questions

Sentences - 13 Questions

Assumptions: The percent right answers is equal to the same standard score in Word Knowledge and Word Discrimination (correlation = 0.99). Assume the percent right answers is equal to the same standard score in Sentences. The logarithm of grade equivalents is expressed by a linear function of the standard scores from 21 to 60 (correlation = 0.99).

$$\log_{10} \text{Grade Equivalent} = 0.005521 \text{ Composite Right Answers} - 0.022113$$

Composite Right Answers	Grade Equivalent	Composite Right Answers	Grade Equivalent
3	0.99	17	1.18
4	1.00	18	1.19
5	1.01	19	1.21
6	1.03	20	1.22
7	1.04	21	1.24
8	1.05	22	1.26
9	1.07	23	1.27
10	1.08	24	1.29
11	1.09	25	1.31
12	1.11	26	1.32
13	1.12	27	1.34
14	1.14	28	1.36
15	1.15	29	1.37
16	1.16	30	1.39

Appendix D

(continued)

Composite Right Answers	Grade Equivalent	Composite Right Answers	Grade Equivalent
31	1.41	46	1.71
32	1.43	47	1.73
33	1.44	48	1.75
34	1.47	49	1.77
35	1.48	50	1.80
36	1.50	51	1.82
37	1.52	52	1.84
38	1.54	53	1.87
39	1.56	54	1.89
40	1.58	55	1.91
41	1.60	56	1.94
42	1.62	57	1.96
43	1.64	58	1.99
44	1.66	59	2.01
45	1.68	60	2.04

Appendix E

First Grade Post-Tests

Metropolitan Achievement Tests - Form A

Word Knowledge - 35 Questions

Word Discrimination - 35 Questions

Sentences - 13 Questions

Assumptions: The percent right answers is equal to the same standard score in Word Knowledge and Word Discrimination (correlation = 0.99). Assume the percent right answers is equal to the same standard score in Sentences. The logarithm of grade equivalents is expressed by a linear function of the standard scores from 21 to 60 (correlation = 0.99).

$$\log_{10} \text{Grade Equivalent} = 0.005569 \text{ Composite Right Answers} - 0.013033$$

Composite Right Answers	Grade Equivalent	Composite Right Answers	Grade Equivalent
3	1.01	17	1.21
4	1.02	18	1.22
5	1.04	19	1.24
6	1.05	20	1.25
7	1.06	21	1.27
8	1.08	22	1.28
9	1.09	23	1.30
10	1.10	24	1.32
11	1.12	25	1.34
12	1.13	26	1.36
13	1.15	27	1.37
14	1.16	28	1.39
15	1.18	29	1.41
16	1.19	30	1.43

Appendix E
(continued)

Composite Right Answers	Grade Equivalent	Composite Right Answers	Grade Equivalent
31	1.44	46	1.75
32	1.46	47	1.77
33	1.48	48	1.80
34	1.50	49	1.82
35	1.52	50	1.84
36	1.54	51	1.87
37	1.56	52	1.89
38	1.58	53	1.91
39	1.60	54	1.94
40	1.62	55	1.96
41	1.64	56	1.99
42	1.66	57	2.01
43	1.68	58	2.04
44	1.71	59	2.07
45	1.73	60	2.09

Appendix F

Kindergarten Test

Peabody Vocabulary Test - Forms A and B

Right Answers	Mental Age Form A	Mental Age Form B	Right Answers	Mental Age Form A	Mental Age Form B
	yrs.-mos.	yrs.-mos.		yrs.-mos.	yrs.-mos.
35	3-5	3-6	56	6-1	6-2
36	3-6	3-7	57	6-3	6-4
37	3-7	3-8	58	6-6	6-6
38	3-8	3-8	59	6-8	6-8
39	3-9	3-9	60	6-10	6-10
40	3-10	3-10	61	7-1	7-0
41	3-11	3-11	62	7-3	7-3
42	4-0	4-0	63	7-6	7-5
43	4-1	4-2	64	7-8	7-7
44	4-3	4-4	65	7-10	7-10
45	4-5	4-6	66	8-1	8-0
46	4-7	4-7	67	8-3	8-2
47	4-8	4-9	68	8-5	8-4
48	4-10	4-11	69	8-7	8-6
49	4-11	5-1	70	8-9	8-9
50	5-1	5-3	71	8-11	8-11
51	5-2	5-4	72	9-2	9-1
52	5-5	5-6	73	9-5	9-4
53	5-7	5-8	74	9-8	9-6
54	5-9	5-10	75	10-0	9-10
55	5-11	5-11			

Appendix G

Original Data

KINDERGARTEN

Order #	Sex	Age at Time of Pre-Test	Days Absent		# of 20 Minute Sessions on ERE Instrument	Peabody # Right Answers		Metropolitan # Right Answers Form C		
			Pre-	Post-		Form A Pre-	Form B Post-	W.K.	Post- W.D.	Comp.
Experimental										
001-1	F	5-3	2	17	104	61	66	17	17	34
002-1	F	5-7	1	3	113	46	56	15	13	28
003-1	M	5-5	2	0	120	60	63	20	21	41
004-1	F	5-5	7	16	100	55	64	10	11	21
005-1	F	5-5	10	22	85	59	68	12	16	28
006-1	M	5-11	4	36	76	57	65	9	9	18
007-1	F	5-2	5	16	108	58	64	22	22	44
008-1	F	6-0	4	10	103	62	60	16	16	32
009-1	M	5-7	2	3	106	56	58	16	8	24
010-1	F	6-0	11	19	90	58	58	6	11	17
011-1	M	5-8	1	9	99	55	56	12	12	24
012-1	F	5-8	2	26	81	48	54	14	12	26
013-1	M	5-7	3	13	98	51	52	11	4	15
014-1	F	5-11	7	44	63	55	53	8	8	16
015-1	M	5-7	5	3	106	54	53	11	14	25
016-1	F	5-6	7	30	88	53	64	15	7	22
017-1	F	6-0	0	3	103	54	61	24	22	46
018-1	F	5-11	4	22	94	56	58	21	16	37
019-1	F	5-6	4	12	104	59	64	21	24	45
020-1	F	5-7	8	32	77	60	65	15	19	34
021-1	M	5-6	3	2	110	43	47	10	10	20
022-1	M	5-11	0	11	98	60	63	11	16	27
023-1	M	5-4	0	1	58	60	62	15	23	38
024-2	F	5-5	4	29	51	64	63	-	-	-
025-2	F	5-2	7	9	81	46	47	-	-	-
026-2	M	5-10	4	11	82	58	60	-	-	-
027-2	F	5-4	7	26	75	41	46	-	-	-
028-2	M	5-9	6	14	82	36	39	-	-	-
029-2	M	5-5	4	14	75	64	62	-	-	-
030-2	F	5-1	1	20	76	45	59	-	-	-

Appendix G

(continued)

Order #	Sex	Age at Time of Pre-Test	Days Absent Pre-	Days Absent Post-	# of 20 Minute Sessions on ERE Instrument	Peabody # Right Answers Form A Pre-	Peabody # Right Answers Form B Post-	Metropolitan # Right Answers Form C Post- W.K.	Metropolitan # Right Answers Form C Post- W.D.	Metropolitan # Right Answers Form C Post- Comp.
031-2	M	5-1	13	15	85	52	57	-	-	-
032-2	F	5-1	5	7	89	50	45	-	-	-
033-2	M	5-0	2	6	90	52	54	-	-	-
034-2	M	5-1	14	22	43	47	49	-	-	-
035-2	M	5-2	5	14	66	49	61	-	-	-
036-2	F	5-7	0	8	85	37	34	-	-	-
037-2	M	5-2	16	9	89	57	62	-	-	-
038-2	F	5-0	11	38	64	49	55	-	-	-
039-2	F	5-0	0	16	83	51	54	-	-	-
040-2	M	5-1	21	35	53	52	55	-	-	-
041-2	F	5-0	1	17	79	54	45	-	-	-
042-2	M	5-0	6	12	83	38	52	-	-	-
Control										
043-3	F	5-5	1	6	0	51	49	-	-	-
044-3	M	5-4	9	20	0	33	51	-	-	-
045-3	F	5-5	3	7	0	49	59	-	-	-
046-3	M	5-3	5	12	0	42	46	-	-	-
047-3	M	5-5	4	35	0	43	43	-	-	-
048-3	M	5-10	4	25	0	47	55	-	-	-
049-3	M	5-5	9	41	0	35	40	-	-	-
050-3	F	5-5	14	56	0	45	46	-	-	-
051-3	M	5-9	9	13	0	47	58	-	-	-
052-3	M	5-4	9	41	0	45	56	-	-	-
053-3	F	5-1	5	20	0	56	61	-	-	-
054-3	F	5-5	6	15	0	51	44	-	-	-
055-3	M	5-4	13	19	0	44	42	-	-	-
056-3	M	5-4	1	15	0	49	58	-	-	-
057-3	F	5-5	5	17	0	45	48	-	-	-
058-3	F	5-7	2	29	0	39	51	-	-	-
059-3	F	5-11	0	9	0	58	53	-	-	-
060-3	F	5-5	6	14	0	46	50	-	-	-

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Appendix G
(continued)

Order #	Sex	Age at Time of Pre-Test	Days Absent Pre-	Days Absent Post-	# of 20 Minute Sessions on ERE Instrument	Peabody # Right Answers Form A Pre-	Peabody # Right Answers Form B Post-	Metropolitan # Right Answers Form C Post- W.K.	Metropolitan # Right Answers Form C Post- W.D.	Metropolitan # Right Answers Form C Post- Comp.
061-3	F	5-4	9	26	0	61	57	-	-	-
062-3	F	5-5	15	54	0	24	36	-	-	-
063-3	F	5-5	3	14	0	44	50	-	-	-
064-3	F	5-8	0	23	0	50	47	-	-	-
065-4	F	5-9	1	22	0	56	62	-	-	-
066-4	M	5-1	3	9	0	42	49	-	-	-
067-4	F	5-6	12	40	0	48	60	-	-	-
068-4	M	5-1	8	20	0	55	50	-	-	-
069-4	M	5-2	4	9	0	48	55	-	-	-
070-4	M	5-1	7	17	0	64	59	-	-	-
071-4	M	5-1	0	11	0	41	55	-	-	-
072-4	M	5-9	9	25	0	57	61	-	-	-
073-4	F	5-4	4	22	0	47	54	-	-	-
074-4	M	5-4	8	19	0	42	53	-	-	-
075-4	M	5-9	6*	32	0	67	64	-	-	-
076-4	M	5-2	19	17	0	59	63	-	-	-
077-4	M	5-6	6	17	0	52	55	-	-	-
078-4	M	5-1	2	6	0	45	49	-	-	-
079-4	F	5-3	3	13	0	57	69	-	-	-
080-4	F	5-3	3	15	0	47	52	-	-	-
081-4	F	5-3	1	5	0	43	41	-	-	-
082-4	M	5-1	8	22	0	57	61	-	-	-
083-4	M	5-1	4	8	0	43	44	-	-	-
084-4	M	5-1	1	11	0	53	57	-	-	-
085-4	F	5-9	4	17	0	47	52	-	-	-
086-4	M	5-1	3	3	0	45	47	-	-	-
087-4	M	5-2	28	28	0	56	60	-	-	-
088-4	F	5-1	10	30	0	49	52	-	-	-
089-5	M	5-9	7	21	0	53	52	-	-	-
090-5	F	5-7	10	14	0	56	53	-	-	-
091-5	M	5-4	9	14	0	58	62	-	-	-

* Prorated

Appendix G

(continued)

Order #	Sex	Age at Time of Pre-Test	Days Absent Pre-	Days Absent Post-	# of 20 Minute Sessions on ERE Instrument	Peabody # Right Answers Form A Pre-	Peabody # Right Answers Form B Post-	Metropolitan # Right Answers Form C Post- W.K.	Metropolitan # Right Answers Form C Post- W.D.	Metropolitan # Right Answers Form C Post- Comp.
092-5	F	5-3	12	25	0	53	64	-	-	-
093-5	M	5-0	23	37	0	59	56	-	-	-
094-5	M	5-1	4	8	0	47	48	-	-	-
095-5	M	5-2	5	21	0	51	51	-	-	-
096-5	M	5-3	3	18	0	51	50	-	-	-
097-5	M	5-4	9**	22**	0	57	51	-	-	-
098-5	F	5-0	5	9	0	40	53	-	-	-
099-5	M	5-7	9	29	0	59	53	-	-	-
100-5	F	5-1	15	43	0	65	69	-	-	-
101-5	F	5-1	2	22	0	53	56	-	-	-
102-5	M	5-4	9	21	0	64	61	-	-	-
103-5	F	5-3	13	29	0	60	61	-	-	-
104-5	F	-	9**	22**	0	55	57	-	-	-
105-6	F	5-7	2	21	0	40	50	3	6	9
106-6	M	5-7	0	1	0	53	60	2	4	6
107-6	M	5-11	8	26	0	54	60	3	8	11
108-6	M	5-8	2	4	0	50	51	10	0	10
109-6	M	5-6	2	17	0	45	47	0	0	0
110-6	F	5-3	5	14	0	45	38	8	5	13
111-6	M	5-6	1	15	0	49	54	10	7	17
112-6	M	5-7	6	18	0	51	55	0	5	5
113-6	M	5-8	5	14	0	55	53	5	6	11
114-6	M	5-7	8	37	0	57	57	8	8	16
115-6	M	5-8	3	36	0	51	47	6	9	15
116-6	M	5-4	1	5	0	61	67	4	8	12
117-6	F	5-2	9	20	0	51	50	8	9	17
118-6	M	5-8	0	18	0	54	52	0	6	6
119-6	M	5-6	1	28	0	58	56	9	7	16
120-6	F	5-7	12	29	0	44	49	0	2	2
121-6	F	5-8	15	58	0	38	34	0	4	4
122-6	F	5-9	12	37	0	44	46	10	0	10

** Estimated

Appendix G

(continued)

FIRST GRADE

Order #	Sex	Age at Time of Pre-Test	Days Absent Pre-	Days Absent Post-	# of 20 Minute Sessions on ERE Instrument	Metropolitan # Right Answers Form C, Pre- W.K.	W.D.	S.	Comp.	Metropolitan # Right Answers Form A, Post- W.K.	W.D.	S.	Comp.
Experimental													
123-7	F	6-0	4	23	67	8	9	4	21	11	12	6	29
124-7	M	6-1	9	17	63	8	4	2	14	26	22	6	54
125-7	F	6-0	3	10	74	9	8	3	20	25	26	5	56
126-7	M	6-7	7	2	90	1	9	4	14	29	29	2	60
127-7	M	6-9	31	51	45	10	11	3	24	8	5	3	16
128-7	F	6-3	2	7	77	12	8	6	26	19	28	5	52
129-7	F	6-2	4	12	79	3	10	3	16	25	21	5	51
130-7	F	6-1	12	29	64	11	5	3	19	20	22	4	46
131-7	M	6-4	9	24	67	4	8	1	13	22	24	2	48
132-7	M	6-6	3	8	81	8	11	6	25	26	27	7	60
133-7	M	6-4	3	8	75	7	7	3	17	24	25	4	53
134-7	M	7-8	6	20	71	2	9	0	11	17	11	6	34
135-7	F	6-11	8	29	66	8	6	2	16	11	6	3	20
136-7	M	6-6	3	2	85	12	10	3	25	18	21	5	44
137-7	F	6-9	10	22	71	14	11	2	27	28	28	7	63
138-7	M	6-3	1	1	85	6	6	4	16	28	21	5	54
139-7	M	6-0	8	2	89	12	10	4	26	17	21	7	45
140-7	F	6-11	1	10	73	6	7	5	18	28	25	3	56
141-7	M	6-1	17	21	72	7	9	3	19	16	18	3	37
142-8	F	6-5	7*	4	53	4	9	0	13	22	17	7	46
143-8	F	6-1	7*	6	57	7	0	3	10	19	18	4	41
144-8	F	6-4	7*	9	54	8	8	4	20	20	27	4	51
145-8	F	6-3	4*	6	78	5	8	4	17	23	26	6	55
146-8	M	6-3	4*	2	87	10	5	4	19	34	35	9	78
147-8	M	6-10	7*	9	54	10	0	3	13	18	18	4	40
148-8	F	6-11	18*	31	54	10	8	4	22	24	23	5	52
149-8	F	6-3	12*	19	79	5	10	8	23	30	25	8	63
150-8	M	6-5	9*	8	88	6	6	4	16	21	26	8	55
151-8	M	6-9	12*	17	66	0	6	4	10	34	34	11	79

* Prorated

Appendix G

(continued)

Order #	Sex	Age at Time of Pre-Test	Days Absent Pre-	Days Absent Post-	# of 20 Minute Sessions on ERE Instrument	Metropolitan # Right Answers Form C, Pre- W.K.	W.D.	S.	Comp.	Metropolitan # Right Answers Form A, Post- W.K.	W.D.	S.	Comp.
152-8	M	6-0	0*	1	83	10	9	0	19	12	19	4	35
153-8	F	6-5	4*	3	86	6	2	0	8	24	34	8	66
154-8	M	6-9	13*	13	72	0	3	4	7	30	32	7	69
155-8	F	6-3	5*	5	89	0	5	2	7	26	23	6	55
156-8	M	6-10	4*	6	74	6	8	2	16	22	22	3	47
157-8	F	6-5	5*	6	85	11	2	4	17	20	18	3	41
158-8	M	6-4	9*	12	65	6	5	1	12	31	27	12	70
159-8	M	6-4	9*	14	81	7	8	4	19	21	20	5	46
160-8	M	6-11	30*	37	44	7	8	3	18	17	18	5	40
161-8	F	6-11	24*	30	67	12	3	5	20	25	20	9	54
Control													
162-9	M	6-4	8	7	0	2	2	1	5	29	27	7	63
163-9	M	6-11	16	18	0	8	2	4	14	11	7	5	23
164-9	M	6-2	8	30	0	7	7	3	17	13	4	4	21
165-9	F	6-5	8	13	0	5	9	2	16	20	25	3	48
166-9	F	6-0	23	18	0	5	3	3	11	3	9	3	15
167-9	F	6-11	4	5	0	6	4	4	14	16	18	3	37
168-9	M	6-0	18	31	0	7	7	5	19	10	15	5	30
169-9	F	6-10	2	18	0	1	1	1	3	8	9	4	21
170-9	M	7-1	4	12	0	5	1	0	6	13	9	2	24
171-9	F	6-5	15	13	0	5	5	4	14	12	20	4	36
172-9	F	6-8	10	18	0	2	2	1	5	4	10	3	17
173-10	M	6-8	7	12	0	2	14	6	22	26	27	11	64
174-10	F	6-4	6	12	0	23	26	0	49	35	33	12	80
175-10	M	6-10	3	11	0	18	19	4	41	34	34	12	80
176-10	M	6-4	3	7	0	12	16	4	32	34	35	13	82
177-10	M	6-10	5	3	0	17	22	1	40	33	33	10	76
178-10	F	6-4	5	8	0	8	6	2	16	15	19	5	39
179-10	M	6-4	7	20	0	27	28	3	58	33	31	13	77
180-10	F	5-11	3	8	0	8	15	5	28	28	31	12	71
181-10	F	6-3	8	6	0	10	18	6	34	35	32	12	79

* Prorated

Appendix G
(continued)

Order #	Sex	Age at Time of Pre-Test	Days Absent Pre-	Days Absent Post-	# of 20 Minute Sessions on ERE Instrument	Metropolitan # Right Answers Form C, Pre- W.K.	W.D.	S.	Comp.	Metropolitan # Right Answers Form A, Post- W.K.	W.D.	S.	Comp.
182-10	M	6-2	0	12	0	16	23	6	45	33	32	10	75
183-10	M	6-8	5	0	0	3	20	4	27	29	33	8	70
184-10	F	6-4	12	6	0	5	7	4	16	30	34	9	73
185-10	M	6-5	1	5	0	4	17	0	21	27	25	8	60
186-10	F	7-3	11	23	0	15	23	3	41	31	29	5	65
187-10	F	6-10	0	7	0	9	15	2	26	26	34	7	67
188-10	F	6-11	2	4	0	11	24	2	37	34	25	11	70
189-10	M	6-3	9	6	0	8	11	3	22	30	28	8	66
190-10	M	6-2	9	8	0	8	7	3	18	19	25	11	55
191-10	M	6-5	2	6	0	12	25	0	37	35	33	11	79
192-10	F	6-2	5	7	0	19	17	2	38	35	32	12	79
193-10	F	6-1	0	0	0	14	21	0	35	34	34	13	81
194-10	M	6-1	7	10	0	11	11	6	28	31	33	13	77
195-10	M	-	0	7	0	11	6	4	21	27	26	6	59
196-10	F	6-0	1	5	0	9	20	3	32	34	32	12	78
197-10	M	6-9	8	17	0	13	25	7	45	34	35	11	80
198-10	F	6-11	1	2	0	4	19	4	27	32	31	5	68
199-10	M	6-8	1	1	0	17	22	7	46	35	33	13	81
200-11	M	6-6	20	21	0	7	4	4	15	15	21	2	38
201-11	M	6-9	5	10	0	8	11	3	22	22	15	5	42
202-11	F	6-11	4	17	0	14	9	2	25	25	31	4	60
203-11	F	6-6	2	1	0	15	11	2	28	16	14	7	37
204-11	M	6-0	0	8	0	12	11	5	28	23	26	1	50
205-11	F	5-11	3	4	0	15	10	3	28	31	31	7	69
206-11	F	6-0	3	13	0	8	10	0	18	23	21	5	49
207-11	M	6-3	14	16	0	7	3	7	17	14	14	3	31
208-11	F	6-8	14	30	0	9	10	0	19	19	16	3	38
209-11	F	6-6	6	8	0	2	3	4	9	18	21	5	44
210-11	M	6-2	3	0	0	13	5	0	18	29	24	3	56
211-11	M	6-9	2	5	0	9	8	3	20	14	19	3	36
212-11	F	6-7	5	1	0	8	6	2	16	18	23	3	44
213-11	M	6-6	4	22	0	7	5	4	16	14	22	2	38

Appendix G

(continued)

Order #	Sex	Age at Time of Pre-Test	Days Absent Pre-	Days Absent Post-	# of 20 Minute Sessions on ERE Instrument	Metropolitan # Right Answers Form C, Pre- W.K.	W.D.	S.	Comp.	Metropolitan # Right Answers Form A, Post- W.K.	W.D.	S.	Comp.
214-11	M	6-3	1	0	0	6	4	1	11	13	16	9	38
215-11	F	5-11	1	7	0	3	10	4	17	21	16	3	40
216-11	M	6-3	3	3	0	15	15	1	31	22	22	9	53
217-11	F	6-2	4	6	0	15	9	5	29	28	30	8	66
218-11	M	6-4	7	19	0	12	10	3	25	26	23	7	56
219-11	F	6-7	0	3	0	23	21	3	47	30	29	6	65
220-11	M	6-2	7	8	0	16	13	4	33	28	30	11	69
221-11	F	6-7	1	1	0	8	10	4	22	31	31	9	71
222-11	F	6-5	10	20	0	14	20	3	37	26	26	9	61
223-11	M	6-5	12	12	0	15	11	3	29	19	21	4	44
224-12	F	6-8	19	27	0	6	7	1	14	11	11	3	25
225-12	F	6-8	5	19	0	9	8	6	23	23	18	4	45
226-12	F	6-6	10	15	0	0	8	3	11	12	10	5	27
227-12	M	6-10	2	15	0	6	7	3	16	9	10	4	23
228-12	F	6-0	0	6	0	6	2	4	12	7	11	4	22
229-12	M	6-2	19	25	0	5	4	3	12	5	13	5	23
230-12	F	6-11	7	15	0	10	7	6	23	13	9	5	27
231-12	F	6-2	2	8	0	11	9	1	21	15	16	5	36
232-12	F	6-4	1	17	0	14	3	4	21	10	8	4	22
233-12	M	6-8	6	29	0	2	1	0	3	7	10	1	18
234-12	M	6-2	19	41	0	0	7	3	10	5	11	5	21
235-12	F	6-2	4	11	0	7	12	5	24	23	23	6	52
236-12	F	6-8	5	5	0	13	12	3	28	24	28	5	57
237-12	F	6-2	9	20	0	3	0	3	6	11	11	4	26
238-12	M	6-0	2	8	0	5	6	5	16	7	8	4	19
239-12	F	6-3	7*	26	0	0	9	3	12	9	10	1	20
240-12	F	6-2	8	8	0	10	8	4	22	6	10	5	21
241-12	M	6-5	2	16	0	4	3	4	11	11	12	7	30
242-12	M	6-3	6	16	0	11	2	0	13	10	10	5	25
243-12	M	6-2	1	2	0	8	6	8	22	12	12	1	25

* Prorated

Appendix H

Calculated Basic Data

	N	$\sum$[Pre-Test]	$\sum$[Pre-Test]^2	$\sum$[Post-Test]	$\sum$[Post-Test]^2	$\sum$[Abs.]	$\sum$[Abs.]^2	$\sum$[Pre-Test][Post-Test]	$\sum$[Pre-Test][Abs.]	$\sum$[Post-Test][Abs.]
KINDERGARTEN										
Experimental										
1	23	1,280	71,762	1,374	82,728	442	12,958	76,895	24,807	26,770
2	19	942	47,876	999	53,747	449	13,603	50,408	22,489	24,082
Control										
3	22	1,004	47,230	1,100	55,942	643	25,101	50,919	27,735	31,007
4	24	1,220	63,216	1,324	74,082	562	17,558	68,139	29,550	32,088
5	16	881	49,095	897	50,801	499	18,285	49,729	28,380	28,676
6	18	900	45,670	926	48,664	490	18,636	46,972	23,659	23,917
Total	122	6,227	324,849	6,620	365,964	3,085	106,141	343,062	156,620	166,540
FIRST GRADE										
Experimental										
7	19	367	7,533	878	43,790	439	16,491	17,016	8,524	17,204
8	20	306	5,154	1,083	61,835	428	14,852	16,252	7,087	23,126
Control										
9	11	124	1,710	335	12,339	299	9,653	3,811	3,729	8,239
10	27	882	31,892	1,931	140,699	334	5,764	64,981	11,460	23,761
11	24	560	14,806	1,195	63,021	366	9,118	29,411	8,199	17,166
12	20	320	5,964	564	18,176	463	14,739	9,904	6,414	12,135
Total	121	2,559	67,059	5,986	339,860	2,329	70,617	141,375	45,413	101,631

Senator MORSE. I now come to the conclusion:

Careful consideration in New York City's demonstration of the Responsive Environment Program reveals a major paradox. The merger of technology and education feared by many as a dire harbinger of decreasing personalization of our society, has accomplished just the opposite; integration of sophisticated technological machinery and innovations of classroom techniques have been the framework of constantly developing curricula; provides children with more personal attention and individualization of instruction than has ever been achieved before.

That is a terrific conclusion as far as this educational significance is concerned. It makes me all the more pleased, may I say to you three gentlemen, that we have given you the time in these hearings to present the material that you have.

I want to thank you for it. I am not a technician nor a scientist. I am going to have to rely on just such studies as I have referred to and other proofs that I am sure will be advanced and presented as time goes by, as to the advantage of this technological approach of aids to the education process not only in the lower grades, but all through our education system.

That is why I have always been an ardent advocate of all the audio-visual techniques being developed as an assistance to the teachers, not to supplant them but to assist them.

STATEMENTS OF MYLES SPECTOR, PRESIDENT, JAMES H. MARTIN, SENIOR VICE-PRESIDENT, RESPONSIVE ENVIRONMENTS CORP.; AND RICHARD KOBLER, MANAGER, T. A. EDISON LABORATORY, WEST ORANGE, N.J.—Resumed

Senator MORSE. With those comments, my first question is this:

Just exactly what is it that you think this subcommittee should recommend in connection with its report to the full committee in respect to the legislation for elementary and secondary education?

Is it your recommendation that we write into the law authorization figures?

Is it your recommendation that we write into the law some section that provides at least by making available, if the school wants to use it, authorization by way of funds for making use not only of your equipment but the equipment of other companies working from different points of view, or approaches, to this problem?

What is it that you want us, that you recomemnd that we should do in the legislation, in connection with this particular bill, on the basis of the case that you have presented to us?

Mr. Martin?

Mr. MARTIN. If I may take three sentences, to bring Senator Murphy up to date on the logic of our position.

(1) The evidence overwhelmingly across the face of the country, with particular emphasis on the Mexican American; the American Indian, the Spanish-speaking child, many lower income whites, and the Negro in the American city, is that the present reading program at its outset, is a disaster and that each year that the child accumulates in school, the gap between him and his peers in the rest of the American society increases drastically and horribly.

Given those circumstances, our thesis is that a new methodology based on the instrusion of the industrial revolution belatedly into the last handcraft institution in our society, called teaching, is a neces-

sary and an absolute requirement to change and turn around this continuing unhappy situation of our children in the schools.

The reason that we are here in terms of the legislation is that education has only known one form of capital investment. That is buildings, and bond issues for long-term payoff of debt incurred in the only form of heavy capital investment education has had.

The current expenditure rate for school districts throughout the United States indicates that the nature of it as a human institution—and I am not saying that negatively but only on a cost-effectiveness analysis—is that generally, about 85 percent of it, is in terms of wages and salaries for personnel.

As a consequence, education is only recently using title I in large sums for small hardware. The overhead projector, the 16 millimeter, and the filmstrip projector, and so forth.

Senator MURPHY. The super 8.

Mr. MARTIN. Yes, sir. Absolutely. That is a highly efficient new form of motion picture projection—instead of a 16 millimeter traditionally used, the so-called super 8.

Senator MURPHY. It weighs 12 pounds and you can pick it up and set it down. You don't have to have two boys from the eighth grade to carry it down. Some of them are so cheap, you can have one at every desk.

Mr. MARTIN. It is coming up rapidly and Mr. Kobler's group is at work in this area.

Senator MURPHY. I have been at this for a long time; you see, having been a dropout and never having graduated from anything, I have always hoped that somehow, some way, I might be able to assist others having the same problem. I could not read at the outset. I learned all sorts of extra curricular things very quickly. I was all right in some directions. I just did not get aimed right.

Then during World War II we in the motion picture business proved the efficiency and the capabilities. We were referred to by the German Foreign Office as the American secret weapon. We trained an army in one-third the time that Hitler's schedule called for, in World War II. General Marshall used to attest to that.

Senator MORSE. Fascinating.

Mr. MARTIN. Senator, I hope you don't mind if I add to the record, in addition to your being a chronic dropout, I was one, too. The thing that separates us now and explains the difference, is that I went back.

Senator MURPHY. I may join you. This is a passing thing.

Senator MORSE. He has come back, too.

Mr. MARTIN. In any case, the economic investment of heavy equipment for educational purposes is simply historically out of the pattern and the nature of the institution of education. As a consequence we are here to ask for it in however physical form you do this. We asked for it in a particular way, a set-aside of 10 percent of the titles under this act, that are germane to this; essentially, titles I, II, III, and VI—that a set-aside be mandated by your legislation calling for investment in the newer technology of education.

The thesis is that the current guidelines quite properly—and we agree with it—have restricted hardware purchases to about 10 percent of the local project use of title I funds. That is because schools have flooded themselves with overhead projectors and teachers are unprepared to use them.

Senator MURPHY. I am ashamed to say, also, in my experience, I found times when there was a rush to spend the money; things were bought by the pound and by the yard rather than by the experience and the quality, and the capability.

Mr. MARTIN. So that there is an initial heavy investment. The traditional educational accounting has only assumed the cost, at outset, for the full purchase. Amortization and cost effectiveness thinking have scarcely begun to penetrate into this area in terms of, "What consequences do you get for your dollar investment?"

Our studies, based on the Brooklyn project which we have been monitoring from a modeling standpoint of a demonstration for escalation of this on a wide-scale use, indicates that the equipment costs per child taught to read is in the neighborhood of $100 a year. But viewed in terms of initial cost, as a capital outlay, this is a frightening prospect to the school districts that have just become accustomed to paying $600 for motion picture projectors. And now, the computer industry has been coming along to them with rentals of about $1,000 a month and up—in these terms.

I note the arrival of Senator Clark and I am happy to say in his State we have two small projects involving our instruments at Drexel University and in the Chester public school system.

Senator CLARK. I am delighted to hear it.

Senator MURPHY. Drexel University, did you say?

Mr. MARTIN. Yes.

Senator MORSE. I now understand what you construe to be the relation of your project to the legislation. I now assign to Counsel Lee the responsibility of working with you gentlemen on the specific language that you would like to have the committee consider, and make it very clear that it does not mean any commitment on the part of the committee at all.

We want to get it in shape so that we are sure our language carries out your intention.

Mr. Lee, I want you to work with the gentlemen in regard to Mr. Spector and Mr. Kobler in regard to this, so when we get into executive session, we know exactly what it is that they are proposing.

(The amendment language subsequently received follows:)

AMENDMENTS

viz:

On page 3, between lines 15 and 16, insert the following:

"USE OF NEW TECHNOLOGICAL SYSTEMS AND MATERIALS

"SEC. 104. (a) Section 205 of the Act of September 30, 1950 (Public Law 874, Eighty-first Congress), is amended by inserting at the end thereof a new subsection as follows:

"'(d) Not less than 10 per centum of the amount received pursuant to this title for any fiscal year by any State or local educational agency or by the Secretary of the Interior shall be used for programs or projects which meet the requirements of this title and which embody new technological systems or materials which have been demonstrated to be effective.'

"(b) The amendment made by this section shall be effective for fiscal years beginning after June 30, 1968."

On page 3, line 18, strike out "SEC. 104." and insert in lieu thereof "SEC. 105.".

On page 18, after line 24, insert the following:

"USE OF NEW TECHNOLOGICAL MATERIALS

"SEC. 122. (a) Section 203 of the Elementary and Secondary Education Act of 1965 is amended by inserting at the end thereof a new subsection as follows:

"'(c) Not less than 10 per centum of the amount received pursuant to this title for any fiscal year by any State agency or by the Secretary of the Interior or the Secretary of Defense shall be used for library materials which meet the requirements of this title and which represent new technological developments demonstrated to be effective.'

"(b) Subsection (b) of such section 203 is amended by striking out 'subsection (a)' and inserting in lieu thereof 'this section'.

"(c) The amendment made by this section shall be effective for fiscal years beginning after June 30, 1968."

On page 19, between lines 10 and 11, insert the following:

"USE OF NEW TECHNOLOGICAL SYSTEMS AND MATERIALS

"SEC. 132. (a) Section 304 of the Elementary and Secondary Education Act of 1965 is amended by inserting at the end thereof a new subsection as follows:

"'(e) Not less than 10 per centum of the amount received pursuant to this title for any fiscal year by any local educational agency or by the Secretary of the Interior or the Secretary of Defense shall be used for programs which meet the requirements of this title and which embody new technological systems or materials which have been demonstrated to be effective.'

"(b) The amendment made by this section shall be effective for fiscal years beginning after June 30, 1968."

On page 36, between lines 14 and 15, insert the following:

"USE OF NEW TECHNOLOGICAL SYSTEMS AND MATERIALS

"SEC. 154. (a) Section 604 of the Elementary and Secondary Education Act of 1965 is amended by inserting at the end thereof the following:

"'(I) The plan must provide that not less than 10 per centum of the amount received pursuant to this title for any fiscal year shall be used for programs or projects which meet the requirements of this title and which embody new technological systems or materials which have been demonstrated to be effective.'

"(b) The amendment made by this section shall be effective for fiscal years beginning after June 30, 1968."

Redesignate sections 154 through 160 as sections 155 through 161, respectively.

Senator MORSE. Senator Yarborough would like to have me ask you this question.

How does the teaching with the talking typewriter mesh with traditional teaching techniques and he has in mind what about the training of teachers to use it?

What about the acceptability of it at the present time, with the traditional teacher attitude and point of view?

What problems if any, are you faced with in getting teachers groups to recognize the importance of it and cooperate in its use?

Mr. MARTIN. If I may, Senator, we have here a few charts. This is the concept of a center involving 20 of these instruments in a laboratory and the related classrooms associated with it.

This is a description of the functioning nature of the Brooklyn project which has been modeled as capable of duplication on a large scale across the face of the country.

The related classroom refers to the fact that since the children are from adjacent schools in the nearby vicinity, they are brought in a total class group with the classroom teacher. It is from these related classrooms that the children move into the "Talking Typewriter" laboratory area of their own volition—not only do they go of their own volition daily but their length of stay is entirely under their individual control up to a maximum. There is neither compulsion for the child to go to the instrument, neither to remain longer than he wants to. Incidentally, that is almost a protest in rhetoric, because we have no children that refuse. The machine is timed. They have to leave in 15 minutes, which is the maximum time exposure.

Here we have worked out the logistics in terms of the table of orga-

nization. Each of these 20 machines, in pairs, are monitored by teacher aides whom we train—we corporately take that responsibility.

This is the woman in the neighborhood, in this case, off of welfare rolls; off of aid to dependent children; unemployed females, typically mothers, are involved here. They receive a nominal wage of whatever is appropriate for the area.

Senator MURPHY. May I explain we have another committee meeting. It is under pressure. I am most interested in this, as the chairman knows. I will read the testimony over very carefully and be guided by it.

Mr. MARTIN. Thank you, Senator.

Senator CLARK. May I say for the record also, I have had a very full briefing on this matter by a group headed by Mr. Kenneth O'Donnell. I am very much interested in it also. I hope we can fit the principles somewhere in the bill.

Senator MORSE. I want to say, Mr. Martin, I hope we can reduce these charts for reprinting in the record. They will be reduced with the reprinting, if you will leave them with us.

Mr. MARTIN. Quickly, what this is designed to indicate here, is the flow chart of the children in the adjacent schools to the center.

Here is an indication of the variation of the first system in which is set a single center, serving a package of schools. In this variation, the machines themselves are decentralized to neighborhood centers so they are reducing the necessity for population movement.

What this indicates is it is a systematic design for a close linkage between the technology and the standard instruction going on in the regular and related classrooms, because the children come to do this for a fraction of the regular full day. The teacher is involved; the teacher receives training; the individualization goes on at the center with the regular classroom teacher participant to it; follows through in the classroom. This then becomes a very effective leverage for changing a conventional instruction process, harmoniously and toward a highly individualized service.

In addition, one of the great shibboleths now current throughout the industry of educational technology is that there are a number of instruments but unfortunately, no one has the "software"—no one has the instructional program material appropriate to the technological nature of the presentation.

We put on the record, sir, that we have complete and thorough beginning reading programs, extending through remedial lessons for the adolescent; on up to programs for the adult literacy situations. We have developed a complete software program and now have this capability.

So that I think that answers the Senator's question.

Senator MORSE. Gentlemen, I think the case is made. If we need any more information, we will ask you to submit a supplemental memorandum.

Thank you very, very much for your very helpful presentation.

Mr. MARTIN. May I, on behalf of our group, thank you very much for the courtesy of your attention.

Senator MORSE. I can assure you that we will see that Senator Javits is thoroughly briefed. He probably also knows about it—what you are doing in the Brooklyn area.

Thank you very much.

Mr. MARTIN. Thank you.

(Following are materials which accompanied the presentation:)

RESPONSIVE ENVIRONMENTS CORPORATION "TALKING TYPEWRITER"

A Computer
Based
Language
Arts System

FOR
YOUR ENTIRE COMMUNITY

REC

NOW AVAILABLE FOR . . .

Early Reading
Remedial Training
Adult Literacy

ACHIEVED THROUGH YEARS OF EXTENSIVE RESEARCH, DEVELOPMENT & TESTING

FROM 1958 TO 1961:

The ERE "Talking Typewriter" was under research and development.*

1961 TO 1965:

Controlled experimentation with early reading for:

The Bright,
the Disadvantaged,
Retardates, the Normal

Remedial Instruction
Mentally Ill
Adults
Basic Literacy
The Handicapped
School Dropouts
(actual & potential)

1966:

Many REC Computer Based Language Arts Systems in Operation.

* Thomas A. Edison Laboratories, McGraw-Edison Company

WITH A PROVEN . . . CONTINUOUS RECORD OF SUCCESS

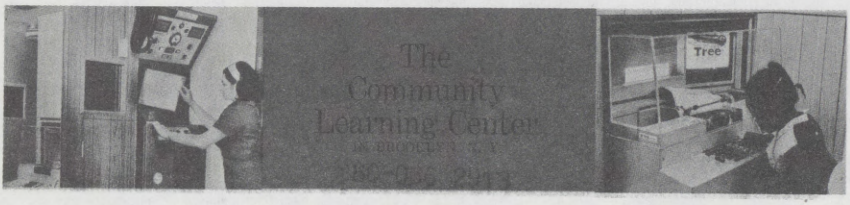
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THE LEADER IN COMPUTER-BASED LEARNING SYSTEMS

[Reprinted from the New York Times, Mar. 12, 1965]

Computerized Typewriter Leads Schizoid Children Toward Normal Life by Helping Them To Read

(By Ronald Sullivan)

Cooperstown, March 10.—A computerized typewriter has been credited with remarkable success at a hospital here in radically improving the condition of several children suffering an extremely severe form of childhood schizophrenia.

No one has fully explained or accounted for the change in the children's condition. No one ever mentions the word cure. Nor does anyone say that a machine has succeeded where psychiatry apparently has not.

All that is said is that one of the children, who was on his way to a state mental institution, is now going to public school after having been given up as a hopeless case one year ago. Several other children have shown similar progress.

What has particularly amazed a number of psychiatrists is that the children's improvement occurred without psychotherapy; only the machine was involved.

MACHINE ALMOST HUMAN

It is almost as much human as it is machine. It talks, it listens, it responds to being touched, it makes pictures or charts, it comments and explains, it gives information and can be set up to do all this in any order.

In short, the machine attempts to combine in a sort of science-fiction instrument all the best of two worlds—human and machine. It is called an Edison Responsive Environment Learning System. It is an extremely sophisticated "talking" typewriter (a cross between an analogue and digital computer) that can teach children how to read and write.

The instrument has been used successfully in teaching 5-year-old kindergarten children how to read after only 30 hours at the typewriter over a five-month period, without any formal instruction from teachers.

HOW IT WORKS

The computerized typewriter allows its user to explore freely. It has infinite patience. There are no punishments when a wrong key is punched. There is no competition. It has inflexible logic. It never varies. It never, never makes a mistake.

The machine consists of a computer about the size of a small, upright piano with a typewriter keyboard in front. It has a speaker and a frame above the typewriter for printed matter.

The first thing a child does is press one of the standard typewriter keys. This prints the character in large type. At the same time, a soft voice automatically identifies it through the speaker.

The computer can be programmed vocally and visually, or both together. When a letter is selected by a recorded voice, all the remaining keys are locked. The machine waits indefinitely while the child punches away until the right key is hit before it calls automatically for the next one.

Then letters lead to words and words to sentences. Sentences lead to stories.

IN RURAL HOSPITAL

The machine was conceived by Dr. Omar Khayyam Moore, a behavioral scientist and a professor of psychology at Rutgers University, and developed by Richard Kobler of the Thomas A. Edison Laboratory, West Orange, N.J.

It was installed here inside a sound-proof booth at the Mary Imogene Bassett Hospital, long considered one of the best rural hospitals in the country.

The two persons who are responsible for getting it here are two staff members, Dr. T. Campbell Goodwin, head of pediatrics, and his wife, Mary, who also is a pediatrician.

A number of the children who have used the machine since it was installed a year ago have been diagnosed as suffering from autism, a baffling and distressing form of childhood schizophrenia that thus far has defied any kind of psychiatric treatment. There is no known cause or cure.

Autism is generally described as a severe emotional disturbance marked by such pronounced symptoms as profound withdrawal, mutism, strange language

behavior, uncontrolled weeping and rage, violent tantrums, wild fear, trance-like fixations of inanimate objects, animal-like behavior and several patterns associated with mental retardation.

Dr. Mary Goodwin is a handsome woman, who, with her husband, has been fighting for nearly 20 years to improve rural treatment facilities for handicapped and retarded children.

Although she believes that what has happened to the autistic children has been extraordinary, she is extremely wary of drawing any medical or psychological conclusions from her success.

With the winter hills south of Otsego Lake behind her, she said the other day: "All I can tell is what I have seen. We're not sure what has happened. We have a vague idea, a guess. We do know what these children were like when they began coming here last year. We do know what they are like now. The important thing is that this be followed up."

Dr. Goodwin has been specializing in remedial reading and therapy for handicapped and retarded children in a special wing developed in the rear of Bassett Hall, a large, Tudor building near the hospital that used to be a nurses home.

She first learned of Dr. Moore's work with the machine in 1961 when he was on the faculty of Yale University. At Hamden Hall Country Day School near New Haven, Dr. Moore demonstrated that very young children, when placed in a "responsive environment," were capable of extraordinary degrees of reasoning.

AVOIDS MISTAKES

Many times, this capacity seems to break down in adult communication with a small child. Thus, Dr. Moore conceived of a machine and an environment that could not make the mistakes adults did when dealing with children.

With her husband's encouragement and with funds made available by the hospital, Dr. Goodwin purchased a machine for $30,000 a year ago February. She reasoned that if it helped bright children, it might very well help handicapped and retarded children, too.

But she also had another idea. She had noted that one symptom of autistic children is a highly abnormal preoccupation with inanimate objects, particularly with anything mechanical. She thought that this pre-occupation might be exploited with a machine.

The first autistic child to use the machine was a highly unmanageable, 6-year-old boy who had never communicated with anyone, including his family.

He was frightened, unkempt, wild and occasionally vicious. He was so disturbed that several psychiatrists had given up any hope for him and advised that he be sent to a state mental hospital.

The boy had never spoken to anyone and he never had been to school. Nevertheless, when Dr. Goodwin placed him inside the small room with the typewriter last May, he gingerly approached it and began to peck out a jumble of commercial brand names advertised on television.

He has since used the typewriter nearly three times a week. Gradually he has begun to respond. Robert D. Seaver, a former teacher with five children of his own and who now works with Dr. Goodwin, said:

"The boy sees me now. He never did before. He responds to me. He responds to others. We know he is far from cured. But his parents are now thinking in terms of school for him instead of custodial care by the state."

Mr. Seaver described another boy who was 6 years old like the first and who likewise was diagnosed as autistic. He had been removed from kindergarten because he had become a menace to himself and to other children. He was extremely disturbed and his condition was getting worse when he began using the machine.

Now, after nearly a year with the typewriter, he is back in school.

A BOY'S PROGRESS

Another boy who was 9 could only make infantile sounds when he began punching out gibberish on the machine last April. Now he can read sentences. He speaks, plays and continues to make progress. He had been considered a virtually hopeless case.

A small group of boys were taken from a state mental institution last summer and began using their arms, elbows and noses on the machine. They were considered representative of the most severely disturbed in their institutions.

One was a 14-year-old who had not spoken since he was 3 or 4 years old. Despite intensive psychiatric care and extensivs psychotherapy, he had deteriorated to the point of being catatonic.

By last November, the boy had begun to initiate simple activities, express himself vocally where he had only made infantile expressions before. He can now pronounce and write his name.

Other children made similar advances.

All the while, Dr. Goodwin and her staff became tantalized with the progress they saw even though they could not explain it. They guardedly and tentatively attribute it to the fact that the machine has removed the human factor in communications.

WARY ON FINDINGS

Mrs. Goodwin is wary of discussing her work for publication because she is not a psychiatrist and her work has had none of the usual controls normally associated with research.

She hopes this will be done.

(For additional information contact REC, Responsive Environments Corporation, 200 Sylvan Avenue, Englewood Cliffs, N.J. 201–568–0224. Exclusive Marketing Representatives of the Edison Responsive Environment System manufactured by McGraw-Edison Company.)

[From the Philadelphia Daily News, July 21, 1967]

MINI-AUTHORS AND THE INCREDIBLE TALKING TYPEWRITER

(By Nels Nelson)

"I like a submarine. It can go under water. When you fill the submarine with water it goes down. When you fill the submarine with air, it comes to the top of the water."

The author of "The Submarine" is a 4-year-old West Philadelphia boy named Michael. He learned to type about the same time that he learned to read. That's *touch*-typing, not hunt-and-peck, if you please.

Michael doesn't know it, but he wrote an abbreviated textbook. Other kids about his age, and younger, are reading his story and retyping it. Some of them are writing their own stories. When Michael and his friends begin their formal education, they already will have experienced the flush of success. Hopefully, this success will make them eager to press ever onward.

The teacher responsible for these impressive results has a battleship gray complexion and sits in a booth at the Nursery School Laboratory operated by Drexel Institute of Technology in a former town house at 34th and Powelton ave.

We'll call this gray one The Incredible Talking Typewriter. The people who make the machine call it a "responsive environment learning system—multisensory, computer-based, fully synchronized."

Michael could say it better. But he's not selling a $50,000 product. Therefore, he doesn't have to louse up a great idea with exotic nomenclature.

A very small nursery scholar named Mark Smart entered the booth yesterday and sat down before The Incredible Etc. He has known the machine for a little more than three weeks, but it seemed like an old friend. Mrs. Lily Marcovitz, who was in charge of the booth, programmed The Incredible Etc. for "The Submarine," by Michael.

As the story flashed on a screen, Mark typed it without a single error. It could not be otherwise. When the machine called for "I," only the "I" worked. And of prevention—the error is caught before, it is committed. And a voice repeats each letter as the correct key is punched.

Afterward Mrs. Marcovitz went over the typescript with Mark. He instantly read the words "submarine," "fishes" and "sharks."

The Incredible Etc. can speak in six languages. It never loses patience with the pupil. If a child cannot find the right key, the voice automatically repeats the letter at regular intervals. It can further clue the child by saying, for example, "Yellow key." The keys are divided into color groups corresponding to the nine fingers used in touch typing. The children's fingernails are painted correspondingly.

Drexel got its Incredible Talking Typewriter through the efforts of the brilliant, attractive and far-seeing lady in charge of the Department of Human Development of the College of Home Economics.

She is Dr. Doreen Steg, a petite, Belgian-born educator who speaks with a trace of an accent. Dr. Steg fell under the spell of Dr. Omar Khayyam Moore, the visionary learning process researcher who developed the talking typewriter. She likes the flexibility of the machine and the feeling of stability it gives the children. The machine never changes its mind. It never tells a child, "Look how stupid you are."

"Some people in teaching," she said, "are deathly afraid of technical developments. I regard this machine as a training aid. It involves the use of skills and behavior which assimilate past experience. It frees the teacher to do the job of educating—an entirely different thing. Educating is enabling an individual to grow, to mature, to develop."

A child in Drexel's Nursery School Lab spends only 15 or 20 minutes a day with The Incredible Etc. It is only one part of a larger learning experience. The children ages 3 to 5, are divided between tuition-paying youngsters and "Get-Set" project boys and girls sponsored by the Board of Education.

The Incredible Etc. has been in use here since last January. Dr. Steg is particularly impressed with the manner in which emotionally upset children have reacted to it.

She said, "six of the children in the first group were behavior problems. The automated machine made them more manageable. It focused their energies in a much more fruitful way."

The bright promise of the talking typewriter is spreading.

Dr. Steg has nearly completed mapping out a program in which the machine will be used with some 200 children in the Philadelphia school system, starting in September. The Drew School on 38th st. near Powelton Ave. and the Powel School at 36th and Powelton will be the first to benefit.

The Incredible Etc. ultimately may wipe out the teacher shortage. By that time, Michael will be negotiating the motion picture rights for his exciting undersea adventure story.

[From the Philadelphia Evening Bulletin, July 20, 1967]

$40,000 "Talking" Typewriter Helps Pupils Who Have Reading Problems

(By Barbara Murphy)

The single most valuable piece of equipment in Chester City School District is a typewriter.

A $40,000 typewriter.

Like any other typewriter, it types. But it also does a lot of other things and its those other things that account for its $40,000 price tag.

The typewriter is a "talking" computer which teaches children how to read.

FOR POTENTIAL DROPOUTS

Its pupils are children who have not learned to read from books. They are children with grave reading problems, the children teachers give up on, the children who eventually drop out of school before they ever acquire the skills they need to get decent jobs.

The "talking typewriter" was installed in the school district's new "Psychological Center" at 500 W. 9th st. last March 9 and a few days later it acquired its first pupils.

They were 14 high school seniors from Chester High School and St. James High School in Chester, selected as a pilot test group from among 250 pupils with serious reading problems.

15 MONTHS IMPROVEMENT

In 15-minute daily sessions, each of the 14 pupils got a total of 15 hours instruction at the computer before school closed.

The results?

Little less than amazing, according to Joseph M. Joseph, director of federal aid projects for the school district and the man responsible for the purchase of the "talking" typewriter.

"In 15 hours of instruction, the average gain was 15 months improvement in reading," Joseph said. "This means the pupils improved at the rate of a month per hour.

"One youngster came into the program reading on a third-grade level. He left reading on an eighth grade. Now he can read any junior high school text book instead of just being barely literate."

BIG BOY, BIG PROBLEM

Mrs. Kane Goff, reading clinician for the program, gave other examples of how effective the computer was in the first 15-hour trial runs.

"One of the test group," she said, "was a 20-year-old boy who stood six feet one inch tall and weighed 265 pounds. When he came to us, both his word recognition and reading skills were at the second grade level.

"When he left, his word recognition was nearly at the fourth grade level and he was reading slightly beyond the fourth grade level."

Like many non-readers, Mrs. Goff said, this 20-year-old boy was desperate to learn how to read.

She said, "The guidance counselor at Chester High School kept promising him, 'some day we'll have something for you.' When the computer arrived, this boy was one of the first selected for the program."

READING LEVEL SOARS

Another boy in the test group also was bigger than average. He was an 18-year-old senior at Chester High School who stood six feet six inches high. But his reading level was just above that considered "functionally illiterate"—three years, one month. His word recognition level was slightly better—five years, one month.

After 15 hours on the machine, his word recognition and reading skills both had passed the sixth grade level.

"This boy came from a broken and unhappy family," said Mrs. Goff by way of illustrating what psychologists working with non-readers have discovered. Many of these children have learning problems because of traumatic experiences in early childhood.

VOCABULARIES POOR

"In their formative years," Joseph said, "These children have been deprived of normal human contacts. Nobody talks to them. They never have a chance to develop normal vocabularies."

As a result schooling is one long frustration for these children. They meet with nothing but failure.

Typical of the attitude which some of these children develop was the statement made by one boy during a "gripe-in" which Mrs. Goff held one day for some of the students in the test program.

"What I'm sick and tired of," the boy said, "is teachers' ugly faces."

For a boy like this, Mrs. Goff said, a depersonalized computer is a godsend.

2 YEARS OF PLANNING

Joseph said he first learned about the talking typewriter when he read an article about it in a national magazine in November, 1965.

Joseph spent the next two years planning a project in which the school district could get federal funds to buy one of the computers.

The result was "Operation Impetus," a program designed to help 400 public and non-public school pupils with a variety of learning problems.

Last fall the school district applied for $207,701 in federal funds to launch the program.

Of this, $40,000 was ear-marked for purchase of a "talking typewriter" from Responsive Environments Corp., of Englewood Cliffs, N.J., and another $57,000 was ear-marked for the purchase of a building to serve as the Psychological Center where the computer was to be located.

A GROUP OF SPECIALISTS

Other funds were requested to train a reading clinician and to hire neurologists, psychologists, social workers and speech therapists who would work with the program.

It wasn't easy getting the money, Joseph said, chiefly because of the talking typewriter.

"People were skeptical," Joseph said. 'All sorts of dire predictions were made.

"From September to March, I went through one defensive battle after another."

But Joseph finally managed to persuade the government that the computer was worth a try and in March the money came through.

HOW TYPEWRITER IS USED

The talking typewriter is a highly sophisticated product of modern computer science but it works simply enough for the child who sits at the keyboard.

Instruction comes in three phases. During Phase I, the child merely sits at the keyboard—similar to any typewriter keyboard—and plays with the keys until familiar with the letter pattern.

In Phase II, he learns the alphabet. A magnetic tape is run through the computer. It flashes the letter to be learned before the child's eyes at the same time that a voice on the tape sounds the letter.

The letter is flashed and sounded repeatedly before the child until he hits the right key on the keyboard. Only then does the computer go on to another letter.

ALONE WITH COMPUTER

In Phase III, this same process is used with words and short sentences.

During the learning process the child is virtually alone with the computer since both are enclosed in a sound-proof booth. The reading clinician stands outside the booth, communicating with the child, when necessary, over a telephone hookup.

The process seems simple enough and apparently succeeds for two main reasons.

The first is that it requires the child to use several senses—auditory, visual and tactile—in the learning process. The second is the computer's infinite patience. It perseveres. It doesn't scold.

Teachers, administrators and pupils are equally enthusiastic about the talking typewriter.

PUPIL IS PLEASED

Lenora Cooper is an 18-year-old student at Chester High School who's been working with the computer this summer to improve her reading skills.

Lenora is a soft-spoken, rather shy teenager, but there is no question about her enthusiasm for her mechanical teacher.

"I like it very much," she said. "I've learned a lot."

[From the Berkeley, Calif., Gazette, Aug. 8. 1967]

GARFIELD'S INTRIGUING TALKING TYPEWRITERS

(By Neil Sullivan)

An exciting application of the machine age to the Berkeley schools is the "talking typewriter." Two of these intriguing machines were put into use here for the first time this summer at Garfield. They are part of a pilot project to upgrade the reading achievement of secondary-level students and will continue in operation during the next school year.

I have asked Mr. Robert D. Collier, former Garfield counselor and presently director of this pilot program, to write today's column. He will also direct the program this fall.

THE "TALKING TYPEWRITER"

The program utilizing the talking typewriter is known as S.B. 28 Demonstration Reading Program. Senate Bill 28 is legislation funding compensatory education demonstration programs in reading and mathematics. Berkeley's pilot project, conducted for seven weeks this spring and summer, relates to reading.

Sixty-five 7th grade students were enrolled in the summer pilot project. Another thirty-eight 9th grade students were enrolled as student tutors. The talk-

ing typewriter is just one part of the Reading Program. The students were in school three hours a day, West Campus students served as tutors for the 7th graders on a one-to-one basis. Tutoring was daily. There was also an evening tutorial program, with the 9th graders going into the homes of the 7th graders.

Adults from the Southwest Berkeley Project area functioned as paid program service aides, supervising the tutoring both in the evening home sessions and during the school time. They also assisted with after-school and Saturday field trips.

Enrichment activities gave the students experiences designed to motivate their interest in a variety of educational activities. The students were encouraged in the direction of creative reading and writing. Drama, art and music were used to stimulate interest in reading, which is taught on an activity-centered level.

Plans are being prepared to fund this program again for the coming year, with an estimated 250 students and 50 program aides to be involved. It is hoped that the students will be in the program from two to three hours daily.

The feature of the project which has excited the most interest is, of course, the talking typewriters. They involve a multi-sensory approach to the teaching of reading. The keyboard is that of a regular typewriter, but the keys are of different colors. A voice recording tells the students which word to type. Only the correct keys will work. The student keeps trying until he hits the right one, with the letter being repeated several times. A picture of the object being spelled is flashed on a small screen attached to the machine.

If the student doesn't spell the word correctly, the voice instructs him to press the key of a certain color. When he has spelled the word, the student speaks the word, which is recorded and played back to him.

The material programmed into the machine is designed to fit the special learning needs of each student. About 25 students from the summer program used the machines. They were each given about 20 minutes daily on the typewriters. The rest of the daily session was spent in reading instruction which reinforced the learning experience gained from the typewriter.

Definite changes in attitudes of students toward learning were achieved during the seven-week pilot project, and test-scores which will be available shortly will show a rise in reading achievement. The chief objective of the innovative program and the use of the computer-assisted approach to teaching has been improved reading, and the results of the Demonstration Reading Program indicate that this has been achieved.

[From the Rome (N.Y.) Sentinel, Aug. 12, 1967]

"TALKING TYPEWRITERS" HELP PUPILS AT RSS

Responsive environment units (talking typewriters), used for the first time on a regularly scheduled basis during this year's Rome State School summer education program, proved helpful to pupils, Joseph H. Searow, education director said today.

The summer school, which came to an end Friday, was devised to improve, expand and enrich the educational program for mentally handicapped patients.

Searow said progress was noted in those who utilized the machines.

"In fact," he noted, "one patient who was quite withdrawn started to talk to the machine and eventually to the teacher."

CLASSES DAILY

Classes were held daily beginning July 3 for all trainable patients and also a few who needed additional help. Various field trips were taken by all classes during the six-week program to historical points of interest throughout the county and state.

Twenty-seven teachers were employed in the summer's program, along with the education supervisor and director. Subjects such as vocal music, arts and crafts, woodshop and band were included.

The summer school was conducted on a $119,000 Title I grant from the U.S. Department of Health, Education and Welfare.

INDUSTRIES

Computers find school is tough

Their role in teaching is still small, though both designers and educators have broad plans for the years ahead. The big questions are still what to teach and how to do it



RCA's TV-tube terminal drills one pupil while rest of class works "live." Teletypewriter variation will be used in 15 New York schools.

As a problem-solver, the computer has no peers. As a school teacher, a role its creators see as a major one in years ahead, it still has a lot to learn.

That was the consensus this week as the nation's teachers, rid of their 44-million pupils for the summer, boned up for another round with the new technology—and engineers went ahead with bigger plans for next year. The biggest were on the drawing boards of Radio Corp. of America, for a 15-school installation in New York City for which the U. S. Office of Education last week provided $2.5-million.

Computer-assisted instruction (CAI), of course, is but a speck in the nation's rapidly changing $45-billion education picture. Its share of the more than $120-million that schools spent this year on instructional hardware and related software is still practically invisible. Language laboratories, projectors, tape recorders, and closed-circuit TV got nearly all the money. What CAI there is owes its existence almost entirely to federal grants.

Liberation. But CAI commands much of the excitement—and exasperation—that characterizes the U. S. school scene in this 10th year of the space age. CAI is the stuff on which educators build their dreams of totally individualized instruction for students and freedom for teachers from the tedium of drill, drill, drill.

It has also drawn some of the biggest names in industry—International Business Machines, Radio Corp. of America, Westinghouse, General Electric, Philco-Ford, McGraw-Edison, among others—deeply into the education business. With some 1-million U. S. classrooms waiting to be served, they see an eventual multibillion-dollar market for teaching computers.

As school let out this summer, it was clear that both the teachers and the companies have a long time to wait. Some put the day of the computerized classroom 10 and 20 years away. Says a Westinghouse official candidly, "We do not expect profits for several years." IBM is taking a

Business Week



'Talking Typewriter' booths line Brooklyn lab where machines have been teaching reading since January.

go-slow attitude on pushing the results of a year's experimentation with youngsters at Brentwood School, Palo Alto, Calif.

In production. Only one company professes to be on an on-stream basis in CAI. That is Responsive Environments Corp., marketer for McGraw-Edison's "Talking Typewriters." Under a $1-million federal grant, REC this year had 20 of the $40,000 machines in use under laboratory conditions at a Brooklyn, N. Y., center. Another 10 were under trial in Chicago's Project Breakthrough program.

REC has also stepped outside federally supported programs, having sold machines to state-financed programs, including two recently to California for use in Berkeley schools. President Myles Spector, who launched his marketing effort hardly more than a year ago, says REC has a backlog of orders for 80 machines, and is in "the talking stage" for several hundred more.

I. Proof of the pudding

"Talking Typewriters," however, have been five years in development, and will soon appear in their fourth model, Mark IV. Unlike others in the field, REC says it has had time to document its machine's success in its primary function—to teach children to read.

Based on the work of onetime Yale psychologist Omar K. Moore, the "Talking Typewriter" calls upon the learner's various senses of sight (on a read-out sheet and small illustration panel), sound (a voice reassures the learner, applauds him when he's right), and touch (on a color-coded typewriter keyboard).

In its recent tryout in Brooklyn, REC spokesmen say, the "responsive environment" of the machine has produced pre-schoolers able to read and write at a 1.8 grade level —just short of mastering second-grade material.

For most of CAI, however, results are not so clearly cut. Next year—as this year—U. S. Office of Education funds will again go into classroom experimentation with the fledgling systems.

Mass basis. The first U. S. trial of CAI on a mass basis with unselected students will begin this fall when the Philadelphia Public School District kicks off "Project Grow." Under the $1.3-million program, Philco-Ford harware—a centralized processor, four remote computers, and 48 television-keyboard student terminals—will serve 500 students in four Philadelphia high schools.

RCA's even larger project—the 15-school system in New York City —starts next February. RCA equipment will drill 6,000 students from the first through sixth grades in reading, spelling, and arithmetic.

II. Individual attention

The New York installation demonstrates the current state of the CAI art. As planned, it is essentially a large drill-and-practice machine, with the capacity to keep close tabs on each student's daily progress. This is of obvious value for New York's large and disparate school population. The city's Superintendent of Schools, Dr. Bernard E. Donovan, estimates that the brief drill periods—from six to 20 minutes a day—will give the 6,000 students 10 times the individual attention they get in their classrooms today.

Drillmasters. Yet the current CAI devices are primitive in comparison to what their makers see for them. McGraw-Edison's "Talking Typewriters" have succeeded in imparting the basic skill of reading. IBM's project at Brentwood has focused on developing skills in both reading and arithmetic. But that is about as far as the CAI art has gone with the tutorial capabilities of the computer. For some years, it is expected, CAI may be cast in the simpler, albeit important, role of drillmaster.

Even in this developmental state, however, CAI is having heavy impact on U. S. education. To be sure, it is not the only force at work—rising enrollment, the burgeoning of new knowledge, rising aspirations of minorities, the need to prepare the first generation of the space age, all are pressures for innovation in the schools.

The effort to bring the new technology to bear on space-age schooling has sparked major reappraisals throughout U. S. education. "This may be more important than the programs themselves," says a Chicago education editor. "It is forcing educators to think through their problems."

III. The software problem

Most important for the future of CAI is the so-called software problem, the question of what to teach and how best to teach it. Neither responsible educators nor CAI companies profess to have all, or even many, of the answers—yet.

Both shudder to recall the "Mickey Mouse era" of the mid-1950s, when countless "teaching machines" were rushed to market, and found to be only as good as their software, which was generally not very good and not very plentiful. Injured educators felt they had been taken in by big-business slickers.

To avoid a similar and much more expensive fiasco with multimillion-dollar CAI systems, educators and industrial technologists today wear an air of mutual confidence that implies it will take both of them working together to lick the software problem and bring CAI to full flower. USOE is helping with regional get-togethers.

Speaking earlier this year to a school officials' conference, IBM's director of instructional systems development, L. A. Muller said: "I believe that industry must proceed with a large measure of modesty and humility, embracing the principle that the aims of education are best left to the educators."

What's lacking. As for the educators, Dr. Gabriel Ofeish, director of



IBM's 1500 Instructional System serves as experimental 'teacher' at Brentwood School, Palo Alto, while developing computerized curriculum.

Catholic University's Center for Educational Technology, reminded them at a recent Boston conference on programmed instruction: "It's not the electronics or instrumentation technology we are worried about; it's the software . . . Today we [educators] have no unified science of learning."

Industry can only agree that much remains to be done before CAI and other advanced technologies take a major role in the schools.

Dr. Edward Katzenbach, general manager of Raytheon Co.'s education division, says, "If there has been any agreement among educators about the ends of education, then poor communication has failed to convey them to industry."

Indeed, most responsible voices admit that no such agreement exists; the ends are not only foggy, but the means—a scientific knowledge of the learning process itself—is fragmentary at best.

Search is on. The study is going forward on many fronts, not the least of them being the government-financed CAI installations in public schools. Dr. Patrick Suppes, Stanford University mathematician and philosopher who has been a guiding light for both the IBM and RCA projects in Palo Alto, estimates that experiments next year will involve perhaps 150 schools around the country—and probably $50-million in OEO and USOE funds.

Suppes views the next three to five years as a "demonstration" period, in which up to 1-million school children will get at least part of their schooling on CAI systems. He sees a steady evolution from today's elementary language and math drills, to foreign language teaching at higher levels. He concedes that the use of computers is "some distance away" for more discursive subjects, such as literature and history in which computers must have the ultra-complex programming for dialogue.

High cost. Apart from its software problems, CAI in the style envisioned by Suppes has, as yet, a serious cost problem. With computer terminal consoles currently costing an average of $2,000 each, equipping the nation's 1-million schoolrooms could run to $2-billion—exclusive of equally costly software.

Mass production, Suppes nevertheless maintains, could halve the hardware cost. He considers a $1-billion capital investment spread over perhaps 10 years not out of line among education expenditures expected to total $80-billion a year by 1975. Suppes predicts schools will be spending 1% of their annual budgets on CAI capital equipment.

Others are less optimistic. A recent Arthur D. Little, Inc., study says, "The amount of money devoted to new, unproven devices will be very limited, at least through 1970, and probably through 1975 or 1980."

All instructional materials, the survey points out, command only 3.9% of the nation's education dollar—the bulk goes into teacher salaries and bricks and mortar. The ratio, the study says, will not soon change.

Some big-city administrators view the expense of computerized teaching as acceptable only when it is a side product of an all-purpose system. Dr. Sylvia Charp, chief of data processing in Philadelphia schools, favors a centralized system that would take 10 years to build, cost 10% of the school budget every year thereafter. It would not only provide CAI capacity, but also have use in counseling and testing, vocational education, class scheduling, planning, setting up a data bank, and research. It could also handle all records and bookkeeping.

IV. Weighing the prospects

A Los Angeles public schools computer expert ranks CAI as 10th on a list of a dozen tasks he sees for big computers in his system.

"We've had estimates that it would cost over $500,000 to develop the software for just two classes," he says. "That comes to something like $400 per student hour on the computer. You can't justify it."

The CAI manufacturers face 26,000 local boards of a similar mind. They are reconciled to seeing their brainchild linger as a ward of the federal government for—as the A.D. Little study suggests—another 10 or 15 years.

At universities. The infantile state of CAI in the public schools, of course, does not reflect on the computer's other attainments in education. As a learning tool, the computer is making giant strides on university campuses from MIT to the University of California. Besides the obvious science, engineering, and economics applications, computers are gaining wider acceptance among the liberal arts—Carnegie Tech music students and Harvard art students are among those using them.

This market, indeed, has barely been tapped. The President's Science Advisory Committee estimates only 5% of college-level students yet have access to computers, while at least 75% could use them to advantage. It urges colleges to be spending $400-million a year on them five years from now. The U. S. campus thus is a prime target of the computer makers. **End**

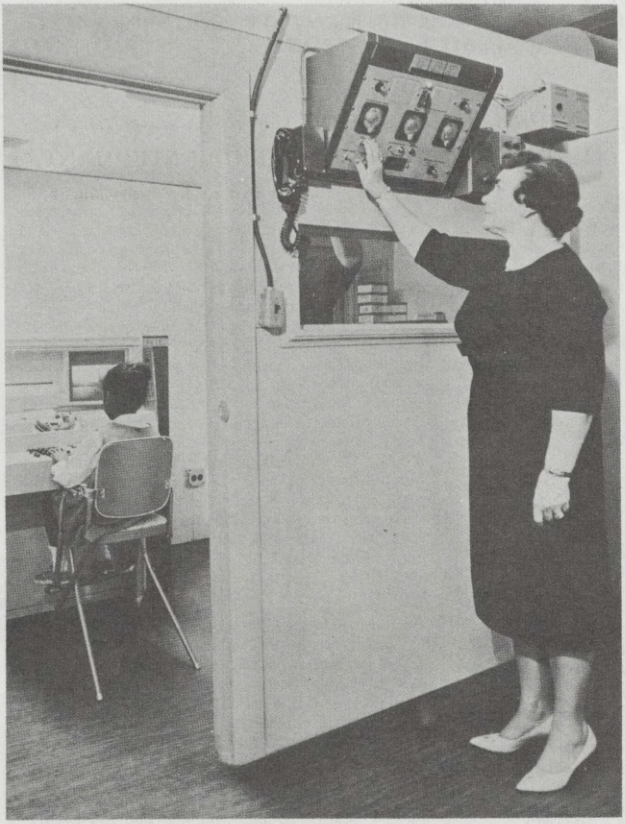
Business Week

FREEPORT PUBLIC SCHOOLS EXPERIMENT ON EARLY READING USING THE EDISON RESPONSIVE ENVIRONMENT INSTRUMENT

By Dr. John Henry Martin



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Mrs. Dorothy Johnson, Director of Primary Reading in Freeport, New York Public Schools and Associate Director of the E.R.E. Project, responds to a signal of a child who is learning to read on an Edison Responsive environment computerized typewriter. Ordinarily the door to the booth is closed and the child is not distracted. (The door was left open in this photo for illustration purposes.) The adult observes the child's progress, unseen, through the one-way viewing mirror.

"Freeport, under Superintendent Martin's leadership, has made a highly important contribution to research and innovation in education through their experiment with the ERE instrument. The results are exciting and I hope will stimulate other communities to explore the potentialities of this instrument as a teacher of reading. I congratulate both Dr. Martin and the Edison Laboratory for undertaking this project."

Dr. James E. Allen, Jr., Commissioner, New York State Dept. of Education

A REPORT ON THE FREEPORT PUBLIC SCHOOLS EXPERIMENT ON EARLY READING USING THE EDISON RESPONSIVE ENVIRONMENT INSTRUMENT

By John Henry Martin*

Preview

Twenty kindergarten children, five years old, were taught to read on Edison Responsive Environment machines over a period of five months. The level of reading proficiency for the group as a whole was near second grade at the close of the experiment in June 1964. The average time of exposure to the automated self-instruction was less than thirty hours – ranging from twenty-two to thirty-six hours per child. One of the peculiar virtues of the E. R. E. machine is its capacity to provide tutorial attention and response to every action of a child: Instrumentation such as the E. R. E. can help significantly to solve many of the problems in the public schools today.

Background and Setting

In the summer of 1963 the Thomas A. Edison Laboratory and their associates, the Responsive Environments Corporation, invited the Freeport Public Schools to conduct an experiment to determine the validity of their E. R. E. Instrument as a teacher of reading to kindergarten and mentally retarded children.

After discussions with the Commissioner of Education for the State of New York, Dr. James E. Allen, Jr., and members of the State Department of Education, it was decided to proceed on a local basis with some State research funds being made available if needed. The Freeport Board of Education supported the entire project without stint and with unanimous agreement.

Freeport, Long Island, is a suburban village of 40,000 population some 35 miles from New York City. The public schools have a population of 7,000 with approximately 4,000 in five elementary schools. In July 1963, the Board of Education directed that a sixth elementary school, over 90% Negro, be closed, and the children be distributed to the other schools in the district. The Atkinson School where this experiment was conducted, one of the five remaining schools with a population of over 600 children, thus became approximately 20% Negro. This school contained the only classes in the Freeport Schools for mentally retarded children of elementary school age. Thus, the Atkinson School made available a comprehensive sample of a general public school population.

Its four kindergarten classes divided into two morning and two afternoon groups contained 115 children. The one primary class for mentally retarded consisted of 14 children.

The Experiment

A statement of the problem was: "Could a technological device teach five-year-olds to read?" Simple analysis of the problem revealed several subsidiary questions. Over what intelligence range would the instrument have any consequences? Would Negro children from a recently closed segregated school respond? Would mentally retarded children learn to read from an instrument?

Twenty-two children were selected, eleven for each of the two available machines. A matching control group was simultaneously identified. These groups were matched over a range of criteria covering age, sex, race, intelligence, left and right handedness, hearing, vision, language maturity, and socio-economic status as measured by parental job classification. Binet intelligence tests were made of every individual in the experimental and control groups by qualified psychologists. All pretesting was completed in November 1963. By June 15, 1964 two subjects were lost to the experiment by moving from the district.

The Classroom Environment

Two years ago, the kindergarten teachers were invited by the supervisors of reading to use reading materials within the regular program of their classrooms. It was generally agreed that too doctrinaire an adherence to child development views in the past had isolated some able kindergarten children from learning to read. In the kindergartens of the Atkinson School were two mature and superior teachers each with more than ten years of teaching experience, with advanced degrees in elementary school education and reading. Both classrooms were richly equipped and were well supplied with materials of instruction.

The Control Group

Under these circumstances the general assumptions underlying a control group could not obtain. It became apparent that our control children would not be in a standard kindergarten where formal or informal reading instruction would not take place. Nor would it be possible to isolate our experimental group from some exposure to classroom instruction. It was possible to anticipate that a reverse Hawthorne effect could develop. At the Hamden Hall Country Day School, Hamden, Conn., where O. K. Moore conducted the first

*Now Superintendent of Schools, Mt. Vernon, New York.

research into the applied theory which led to the development of the Edison instrument, one or more members of the teaching staff were reported to have revealed competitive antagonism to the withdrawal of their children to receive half-hour reading instruction in Professor Moore's research program. Similarly, in the year and one-half before the automated Edison instrument had appeared, Moore-trained reading teachers from the Freeport staff had observed the same reaction when they taught children to read from regular kindergarten and first grade rooms using a modified electric typewriter in a tutoring situation identical to the Moore pattern. Under these circumstances it was reasonable to expect that the arrival of technological instruments of a complexity never before seen in a common school would generate competitive anxieties in teachers possessing a high degree of professional competence and pride. We were not to be disappointed.

Faced with these situations we could not offer the control subjects a 'placebo' of nothing while we administered a new E. R. E.—medication to the experimental group. Rather, we were confronted with the difficult situation where we could be reasonably certain in advance that our control children would receive the best primary reading program that stimulated teachers could devise while maintaining the best aspects of a good child-centered kindergarten. Nor would the research picture remain clear of the effects upon the experimental group of their being withdrawn from their kindergartens daily for one-half hour or more (approximately one-quarter of their day), to return to some incidental exposure to the reading instruction being given tutorially and in small groups to the other children in the class. We recognized that until pre-school children from essentially impoverished environments without tutorially minded parents are used as experimental subjects we shall not be able to completely eliminate certain factors which influence results.

But given these circumstances, which in one form or another affect all studies conducted within social institutions, our results would have to be examined against a restatement of the purpose of the experiment. "Could the E. R. E. instrument teach children to read better than a matched control group who would be taught to read under the best of conditions through the use of regular reading materials and procedures?" In effect, it was possible to anticipate that the normal Hawthorne affect which stimulates the participants in an experimental situation to higher energy output (because of the sense of being part of something special) would in this situation more likely accrue to the control children and their teachers to a degree seldom found or accounted for. On the contrary the sense of being "special" would occur to our experimental group as well. Albeit, that they would be the ones who would leave their classes to go to a distant room voluntarily to enter an isolation booth to play and work with a "talking typewriter."

The Nature of the E. R. E.

The Edison Responsive Environment Instrument, E. R. E., is a computerized typewriter that reproduces several of the sensory responses of a human being. That is, it talks, it listens, it accepts, it responds, it presents pictorial or graphic material, it comments or explains, it presents information, and it responds to being touched. It can be orchestrated to do each of these things in a straight line sequence or in planned parallels of these different sensory behaviors.

For the purpose of this experiment very limited exploitation was made of the instrument's capacities. We frankly have only now, after five months' work, gained some insights into 'feeding' the mouth of this benign and neutral machine. Programming, as the term is currently used, is largely a linear concept of the presentation of printed material in planned sequences with or without pictorial material, with or without audio and with or without branching materials based upon a limited anticipation of the learner's responses. The E. R. E. differs from this concept of programming analogously to the difference between an old-time player-piano and a symphonic orchestra which has been computerized. The first is a mechanical device which can be activated by punched rolls of paper. The second will make different instrumental sounds to produce a symphonic effect as simply or complexly as the score which can be written to activate it. In other words, the E. R. E. is not fixed to any sequence of behavior or responses. The key to a fuller utilization of its many capacities will come from seeing it as *Multi-Sensory Methodology open to simple and varyingly complex behaviors as well as responses from the learner who uses and controls it.*

E. R. E.—A Working Description*

A few examples to illustrate the Multi-Sensory Methodology capabilities of E. R. E. are:

In its simplest operation, the depressing of any key by the pupil will result in the immediate pronunciation of the particular key-symbol and also in the instantaneous typing of that symbol on the typewriter paper in extra large type-style.

Not only must the keyboard be "jam-proof" but, most important, once a key has been depressed, no other key of the total keyboard can be depressed until the audio-pronunciation is completed. Otherwise, this would lead to "wild-typing" and jibberish audio pronunciation.

Even in this simple form of operation, a number of variations were proven to be essential; of particular importance is the ability to pre-record the keyboard in "several languages" even for the teaching of reading and writing of the "natural language." In order to teach sound analysis of the spoken word resulting in written (typewritten) symbols, one should be able to record the alphabet-keys in their phonetic equivalents

**This section appropriately was prepared by Richard Kobler, the technical creator of the Edison Responsive Environment Instrument.*



A kindergarten child at Atkinson Elementary School, Freeport, New York, composes her own story on an Edison Responsive Environment System (E.R.E.).

as well as their letter-names. For example "t" (tee) or "t." A third variation may consist in the combining of phonetic equivalents and letter names, such as "tee-t." One must be able to switch from one language to the other effortlessly dependent upon the student's own requirements.

It is further necessary to be able to delay the audio response to give an advanced student an opportunity to "beat the teacher" with the pupil's own pronunciation of the key-symbol.

In an advanced stage of teaching, E. R. E. adds to these functions the visual exhibition and accompanying audio explanations of single letters, words, sentences, and stories. The Pointing Mechanism must be such as to gradually expand the visual focus of the pupil: thus, single letters can be exposed and pointed to, either in complete isolation or gradually coupled with other letters to form words; later on, a whole printed line is exposed, and lastly, several lines may be exposed.

Probably one of the most important features of the E. R. E. System is the fact that any symbol pointed to by E. R. E. is also "encoded" in its keyboard. This means that this particular key is the *only one* which can be operated by the pupil and which will type its symbol on the typing paper, while all other keys are inoperative (blocked).

Because incorrect responses cannot be completed on the "blocked" keyboard, this approach has aptly been called the "trial and success" method.

A typical operation would be for E. R. E. to point out a particular letter, to pronounce this letter to the pupil, and to free the one single, particular key corresponding to this symbol for manual operation by the pupil. The moment the pupil depresses this key, the pointer will move to next symbol, pronounce it, and free the corresponding key on the keyboard. Here, again, it must be possible for the E. R. E. to pronounce symbols in the before-mentioned two or three modalities (letter names and phonames) dependent upon the program.

Suppose that E. R. E. is pointing to a letter, has pronounced it, and has freed the corresponding key for operation by the pupil. If at this moment, the child's mind "wandered away," a *stalemate* between child and instrument would develop which would call for the intervention of a human teacher and probably end in the termination of the pupil's session with E. R. E.

E. R. E. avoids such a stalemate by audibly repeating the pronunciation of the last letter every few seconds until the pupil operates the corresponding key.

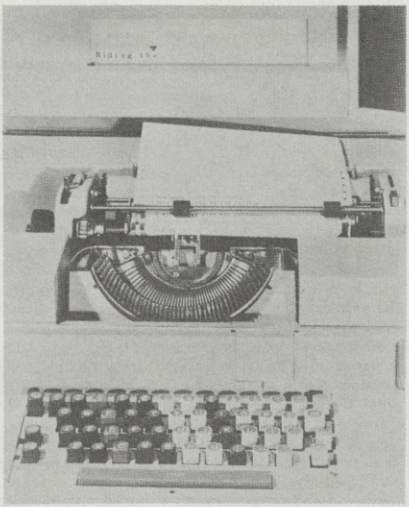
As the pupil proceeds from letters to words, *an additional* audio system takes over which, although it can be programmed to take effect *at any* time or special point of the program, is frequently activated when the "space-bar" is depressed by the pupil. Since the depression of the "space-bar" indicates the end of a word, E. R. E. will at that point pronounce and spell the word just typed. Similar rules hold true of the audio-recapitulation of a total sentence after "period" and even of total paragraphs or stories.

Usually after the pupil has become familiar with a number of words, the audio pronunciation of *individual letters is cut out* because pupils want to proceed at a faster pace and start to resent audio repetitions of things they know in whole word form.

At this point we shall give another example of the *purposeful withdrawal* of a sense-modality (the withdrawal of a "letter audio" was one example). This time we shall *cut out the visual exhibition* of words or sentences and E. R. E. must be able to *ask the pupil* to type certain words or letters based only upon the pupil's audio-reception. This of course is "writing" and furnishes proof of the pupil's absorption of material. The only "help" given is that the keys are sequentially encoded.

Finally, in order to give precisely controlled "gestalt-illustrations" of orthographically presented materials, pictures can be shown to the pupil in close relation to the rest of the program. This is accomplished through an automated rear-projection-instrument built into E. R. E.

As powerful as these multi-sensory, synchronized activities of E. R. E. may be, they frequently are insufficient, if it were not for the ability of E. R. E. *to record the pupil's voice and to automatically play it back to him* in such a manner as to compare his own talk with the *models prerecorded in the E. R. E. System.* All these functions have to be totally synchronized with all other visual and audible as well as tactile stimuli. Having built a word from its visual, tactile, and audible components, having summarized it phonetically, having spoken it and compared it with



Pointer in E. R. E. viewer indicates next letter to be typed.

the pronunciation of the E. R. E., a perceptual ring has been closed which not only results in the learning of the *reading* skill of the natural language, but also in the *writing* skill, based upon the *phonic analysis* of the pupil's own speech and therefore results in a *re-learning of the spoken natural* language on a higher plane.

All of these functions must be easily programmed by electronically and mechanically unskilled personnel. The mere typed copy of the text of a card by an attendant and the operation of a few auxiliary keys will automatically program E. R. E., using a simple card containing not only the visual information but the total encoded program as well as all audio explanations. Each single card may contain as many as 120 words accompanied by 20 minutes of audio explanations.

Testing Schedule

Because the delivery of the two machines was originally scheduled for December 1963, pre-test data on the children was undertaken in November 1963. At that time the experimental group was fixed in size at twenty-two, the estimated capacity of the two machines in the typically short kindergarten school day. Among the tests used to establish the equivalency of the control group were the Binet I. Q.,[1] and two reading tests, the Lee-Clark,[2] and, the Wide Range Achievement Tests.[3] The I. Q. distribution of both the experimental and the control groups ranged from the 140's to the 50's. The original groups were arranged in matched pairs in five categories of intelligence from Superior (120-140), Bright (112-118), Average (90-107), Dull (80's), to Retarded (50's to 70). The forty children who remained in June 1964, divided into twenty Experimental and twenty Control, were distributed in threes, fours and fives in each of the above five intelligence categories.

The scores achieved on reading tests in November 1963 were used to refine the matching of the pairs and the total group, and to provide the bases for comparative measures.

Final testing was done during the weeks of June 8th and 15th, 1964. At that time, the Gates reading test was administered to both groups.

The Administrative Program

The twenty-two children in the experimental group, eighteen from four different kindergartens, and four children from a special primary class for mentally retarded children, came voluntarily for thirty-minute sessions, the maximum time permitted to work with the two E. R. E. instruments. After the first introductory week, the children left their rooms and found their way to the second floor classroom into which had been built two demountable, sound and air-conditioned, plywood booths approximately eight feet in cube that housed the E. R. E.'s and provided isolation from distraction and adult intrusion. The booths were monitored through one-way vision glass and intercom phones by trained teachers or clerks.

Training of the adults consisted primarily in teaching them how to establish a non-directive relationship with the children. Children could signal a desire to leave the booths or ask a question by raising a hand. Prompt response was expected and given provided it was non-instructional. Special note should be made of the successful effort to produce a calm and tranquil atmosphere in the experimental center. Mrs. Dorothy Johnson, Director of Primary Reading in the Freeport Public Schools, as well as Associate Director of the E. R. E. Project, not only did this, but in her manner and person contributed beyond measure to every aspect of the program. No one ever spoke in loud tones. Hurry was forbidden. A generally pleasant hush was maintained in order to keep the children in a neutral atmosphere. We wanted neither tensioned-fright nor overstimulated excitement. The staff achieved this goal despite the almost continuous flow of visitors.

Results

A SUMMARY OF THE STATISTICAL ANALYSIS* OF THE TEST DATA

A statistical study and analysis of the data was made by Dr. Frederick L. Matthews, of STACO, Williston

1. *The Revised Stanford-Binet Intelligence Scale, Sec. Ed.*
2. *Reading Readiness Test, Kindergarten And Grade 1, 1962 Revision, California Test Bureau Publishers.*
3. *The Wide Range Achievement Test, Published by the Psychological Corp. 5th Avenue, New York, N. Y.*

Park, New York. A brief summary follows: Dr. Matthews found a correlation of 0.977 between the I. Q. test scores administered in November 1963 with those given in June 1964.

In an effort to determine which of the three post reading tests administered was most significant, factor analysis was used.

The test with the highest communality was the criterion employed, i.e., the test with the highest correlation with the other two was presumed to be the best.

The Gates Test had an r = 0.8 to Lee-Clark
r = 0.8 to Wide-Range

When Gates was eliminated the correlation of Lee-Clark with Wide-Range was 0.35. On this basis Gates was the best criterion.

When the same procedure was used with the Pre-test results the correlation between the Binet and the Lee-Clark was 0.27 and with the Wide-Range, it was −0.36. Essentially the correlations between the I. Q.'s and the pre-test-reading tests were zero. The correlation between Lee-Clark and Wide-Range was 0.42.

On the basis of the Lee-Clark pre-test data and the Gates post-test results a regression line was graphed, using the least squares method. The actual scores were found to range on either side of the regression line in a normal bell-curve of distribution. The same procedure was duplicated for the control group. No significant difference was found in the slopes. The slope of the experimental group was 0.021778 and that of the control group was 0.0180 *with 1.7 months difference in favor of the experimental group scores.*

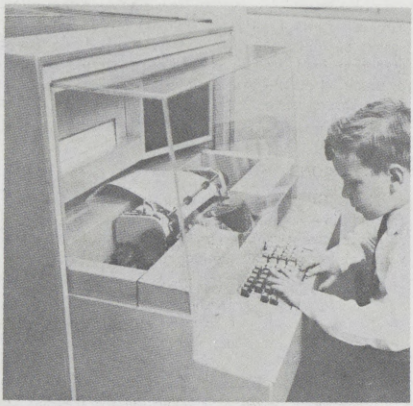
To test the significance of this difference, Dr. Matthews pooled the two slopes equal to 0.0199456 and found that the mean of the experimental scores lay outside the confidence limit of the controls. That is, the mean of the experimental scores exceeded over 90% of the scores achieved by the control group.

Using the "chi" or "goodness of fit" test to test the assumption in the preceding statistics of normal distribution in determining the accuracy of the means, the results were identical.

To subject the data to another test, the regression lines were divided into three equal parts using variance analysis on each part in each group to check the linearity of each regression in each part. The results were remarkably consistent.

One more statistical procedure was applied to the data. The statistician simulated an augmented group by random numbers with replacement to show how big a sample would be needed to produce a significant difference in the slope. He found that control and experimental groups of 75-100 each would do.

**The use of a series of statistical techniques more complex than normally expected for a study of such numbers in addition to the simpler procedures also employed was deliberately done to apply the severest of disciplines to the results. We recognize the possible criticism of using heavy artillery instead of small bore shotguns.*



This child was part of a group of kindergarteners who taught themselves to read entirely without formal human instruction in an average of less than 30 hours of instrumented instruction.

Observations

1. The E. R. E. Instrument has scarcely been exploited as a Multi-Sensory Methodology of teaching.
2. The material prepared during this project for the instrument represents less than twenty hours of instruction time. There is subjective evidence to indicate that only a fraction of these cards carried the major burden of the learning consequences.
3. Additional research is needed to explore the coordinations of the various sensory modalities of the instrument.
4. Exclusive E. R. E. instruction of the very young should produce results superior to those presented here.
5. The predictions that children over four would do poorly with the instrument were not substantiated by our findings.
6. The one case of the 18-year-old Negro boy with a "sight reading vocabulary of less than thirty words" three months ago, who now reads as the unique contribution of the E. R. E., is not generalizable. But the temptation and need to test this field is as immense as the problem.
7. Certain techniques are of importance and were too little used in this project. Desk top slates for tactile confirmation of letter and word learning are of presumptive value. Books distributed to the participants early after their exposure to the instrument should add to the consequences if the one-week experience at the end of this project is an indicator.
8. There is strong subjective feeling that the E. R. E. may make its greatest contribution as a rapid, three to five months "gestalt-producer" for early reading. Our

associate director, chief psychologist, and the other research personnel associated with the project, all suggest that long drawn-out reading programs may be overlooking the phenomenon that learning to read well is the consequence of *early success* followed by much reading.

Conclusions

1. The E. R. E. Instrument taught within five months (actual time at instrument ranged from 22 hours to 36 hours) twenty kindergarten and mentally retarded young children to read significantly better than twenty children carefully matched by a series of criteria who were taught by enriched traditional reading methods.
2. The children with less intelligence scored as significantly superior as did the brighter children.
3. Negro children in the group were indistinguishable by their scores from the remainder of the group.
4. Sex differences were not apparent in the scores.
5. The mean difference for the experimental group in reading score at the end of the five month period was 1.7 months over the control group.
6. There is evidence to indicate that the difference between the experimental group and the control group would have increased had the experiment continued.

Extract from a report by Dr. Lassar G. Gotkin to Dr. Martin Deutsch both of the Institute For Developmental Studies

"Our initial experiences with the machine suggest that we have underestimated its potential as both a research instrument and an instructional device. We have made a major change in the use of the machine. To date, the children using the machine sat in an enclosed cubicle completely isolated from any stimulation other than the machine itself. This approach, in harmony with some Skinnerian concepts, seems to be central to Moore's conception of responsive environments. While much in sympathy with the conceptual framework which emphasized removing the learner from irrelevant stimulation that would interfere with learning, I had decided to do away with the booth for practical reasons involving full school use of the equipment. Richard Kobler and I corresponded about the matter and especially my suggestion that earphones could make up for a major portion of the booth's isolation.

"The shocking observation that we have made this summer in using the machine with five-year-olds without the booth and without the earphones is that they attend to the machine despite a variety of stimulation that would distract even a motivated adult. The incident that highlighted this condition occurred during a time when there were six observing adults in the room and bedlam outside in the schoolyard where 200 children were cheering relay races. During this time the children worked on the machine as if it were perfectly quiet and no one was there. The importance of this observation is relevant in terms of the many observations made that children from socially disadvantaged environments have attentional problems.

"As we have been working with children from disadvantaged backgrounds in classroom settings we often encountered the issue of attention span. The second observation that has been most impressive in our initial work with the children on the machine has been that they have worked a minimum of fifteen minutes at a sitting and it has been our job to terminate the lesson. We have seen no evidence of boredom nor has any child exhibited anything other than intense interest."

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Exclusive Marketing Representatives of the **Edison Responsive Environment**
manufactured by McGraw-Edison Company


...a new era
Edison™ Responsive Environment™
E|R|E LEARNING SYSTEM
How many houses are there?
Here is a view of the Pacific
Ocean splashing the shore.
A mother cat with her children.
REC®
RESPONSIVE ENVIRONMENTS CORPORATION
200 SYLVAN AVENUE, ENGLEWOOD CLIFFS, N.J. 07632
Phone: (201) 568-0224
Offices: Washington, New York and London

July 28, 1964 — "If we are learning anything from our experiences, we are learning that it is time for us to go to work and the first work of these times and the first work of our society is education."

Lyndon B. Johnson

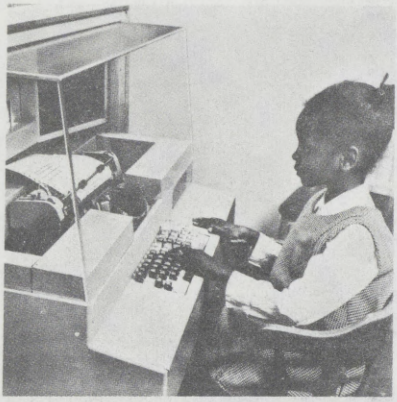
Omar Khayyam Moore *received a Ph.D. in sociology from Washington University in St. Louis. Beginning July 1965, he joins the University of Pittsburgh. His joint appointments there are as senior research associate in the Philosophy of Science Center, professor in the Department of Social Psychology and research associate in the Learning Research and Development Center. Immediately prior to going to Pittsburgh, he was professor of psychology at Rutgers, the State University. He was at Yale for nine years, the last six of which he was associate professor of sociology. Before going to Yale, Dr. Moore was with the Naval Research Laboratory as a social science analyst; and at Northwestern University as a Carnegie Teaching Associate while on leave from Washington University where he was an assistant professor.*

He is currently working with Dr. Alan Anderson on a book dealing with various philosophical and sociological implications of folk models. Dr. Moore has served as director of the Social Psychology laboratory at Rutgers and is Chairman of the Board of Directors of the Responsive Environments Foundation, Inc.; and has been a consultant for various government agencies. He has published numerous papers and articles on his work.



Richard Kobler *headed the developmental effort resulting in the production of the ERE learning system and is its co-inventor. He is manager of the Thomas A. Edison Laboratory, Division of McGraw-Edison Company of West Orange, N. J. Born in Vienna, Austria and educated at the University of Vienna, he came to the United States in 1939 and is now a citizen of this country. Between 1946 and 1965, Mr. Kobler has been granted a total of 46 U.S. and foreign patents with several more applications pending. The patents are in the fields of remote controlled recording machines, dictation equipment, automatic telephone dialing equipment and educational apparatus. He has published two books.*

- **An eighteen-year old boy with a sight reading vocabulary of less than thirty words teaches himself to read on an ERE within three months and, as a result, secures employment at a non-menial job.**
- **A five-year old child in kindergarten plays with a "Talking Typewriter", for about a half hour a day. Less than 30 hours later, over a five-month period, he has taught himself to read without formal instruction from a teacher.**
- **In March, 1964, a six-year old mentally ill (autistic) boy was introduced to the "Talking Typewriter". He was frightened, unkempt, wild and occasionally vicious. Hope for him had been given up . . . his parents had been advised that he be sent to a state mental hospital. He had never spoken to anyone, nor been to school. Nine months later, his doctors report that after exposure to ERE, he responds to the clinic personnel and others.**
- **In the last five years, several hundred students between the ages of 2 and 19 years have learned to read, write, typewrite and take dictation. The group was made up mostly of children of average intelligence but included a few with very high I.Q.'s and some with scores as low as 45, from disadvantaged to affluent environments. Students at all levels showed a marked increase in I.Q. scores while all of them learned these skills.**



ERE . . . THE "TALKING TYPEWRITER"

These unprecedented results were accomplished through the use of the Edison Responsive Environment (ERE) learning system, which the children have dubbed the "Talking Typewriter". So it is, but it is much more, too.

A MULTI-SENSORY METHODOLOGY

Based on computer technology, ERE can be programmed with any desired sequence of letters, words, instructions or graphics. ERE is capable of reproducing several of the sensory responses of the human being. It talks. It listens. It accepts. It responds. It presents pictures, graphs and charts. It comments and explains. *It presents information and it responds when touched and it does these things in a precisely synchronized, consistent way. It presents the student with a "responsive environment" in which he can explore a situation on his own and at his own pace, without praise or blame, until he recognizes the problem to be solved and finds its solution.* ERE has unlimited patience, never raises or lowers its voice in approval or disapproval, and elicits an unprecedented number of correct responses from the student per session as compared to any other existing methodology.

AUTOMATED LEARNING OF READING

The ERE learning system is of especially great significance today because it is the first automated programmed methodology that will successfully teach reading. Today's world is a technological world. Reading is the essential basic skill required to even begin to master vocational skills. There can be no education and therefore no skill acquisition without the ability to read.

The ERE learning system has proven that normal (non-reading) pupils can teach themselves to read without conventional human teaching in 15-30 minutes per day over a 3-5-month period. As corollary benefits, very positive and constructive attitudes towards education are established.

The same results may be achieved over a slightly longer time period with disadvantaged and retarded children (as low as I.Q.'s in the 40-50's) who are unable or have not learned to read with conventional teaching methods.

ERE has proven to be of great significance to mentally disturbed children in helping them to relate to their real world environment.

ERE has helped physically handicapped children to overcome their handicaps in the learning of reading and speech.

For dropouts ERE has a special significance in the light of the various government training programs. ERE has demonstrated its unique value where other conventional remedial reading methods have failed in the training of school dropouts, most of whom are non-readers.

THE FUNCTIONAL ILLITERATE

"The loss of one year's income due to unemployment is more than the total cost of 12 years of education through high school; and when welfare and other costs are added, it is clear that failure to take . . . steps will cost us far more . . . There is no more profitable investment than education, and no greater waste than ill-trained youth."

John F. Kennedy

There is general agreement today among national leaders in government, business, education, science, and indeed throughout the citizenry that the changing job structure of our society can no longer afford or tolerate the functionally illiterate who constitute the largest section of unemployed and unemployables. (The functionally illiterate are defined as those who cannot read or write sufficiently to carry on a job requiring basic reading skills.) Not only are they a severe drain upon the financial resources of the nation, but the economy is deprived of their potential skills and productive power. The problems of the space age and its opportunities cannot be adequately met and solved when large numbers of our citizens, culturally and economically disadvantaged, fall into the category of "untrainables or functional illiterates". As a nation, we have made a commitment to do something about this problem.

REQUIRED — A MASSIVE ATTACK

Our mass public education system, as it is presently constituted, must necessarily be based on a more or less standardized pattern. It has been incapable of devising individual programs of instruction to meet a student's specific situation. In the past two factors militated against such successful accomplishment; *lack of money* and *the lack of human resources*.

The solution to this problem is now possible with automated programmed methodology. According to population trend statistics, the additional students entering the U.S. school system each year from 1965-1970 would require that one-half the college graduates go into teaching merely to maintain the current 35 to 1 student/teacher ratio in our schools. Obviously then, modern educational technology is required to amplify the best of our teachers and to free them for other teaching tasks.

Dr. Herbert E. Striner, Member, President's Panel on Juvenile Delinquency has stated, **"Our educational experience has revealed a disheartenigly high failure rate in dealing with remedial reading problems. Until now, there apparently has been no answer. With the development of the Edison Responsive Environment learning system, this picture has changed radically . . . We are finally in a position to improve radically the chances of culturally deprived children to participate fruitfully in our society by means of training them to read and to communicate according to the norms established by the majority group. With time breathing down our necks, we can turn around and wring its neck on this issue—if we but act . . ."**

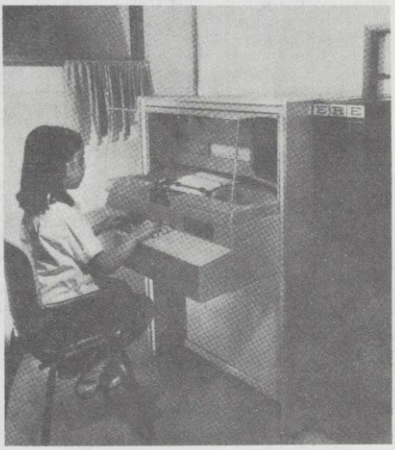
Now, massive public funding has been provided to solve the problem of illiteracy. With the use of the proven ERE learning system, the lives of millions of children and young adults, can be transformed.

THE DISADVANTAGED CHILD

Part of the solution must begin with the disadvantaged child whose frame of reference is not just economic poverty but also cultural poverty. Such a child is usually incapable of relating to either the language used in the schoolroom or the references made by a teacher in normal conversation. His text books are oriented to a world that is foreign to him. This disadvantaged child later appears as a school dropout, a juvenile delinquent, an adult victim of technological unemployment . . . an unemployable recipient of welfare aid.

The environment in which a lower class child grows up often does not provide the intellectual and sensory stimulus he so desperately needs. In his home there may be little conversation, almost no reading material, possibly not a pencil or a book. Furthermore, his parents may speak a foreign language such as Spanish, or use a dialect of English which is as different from school English as a foreign language.

The result is that the youngster from an impoverished background enters school lacking a great many skills which the teachers and the curriculum take for granted and which most middle-class children have acquired as a matter of course. The school has the greatest opportunity to dissolve the cultural barrier that blocks his advance because it is the single institution with which the disadvantaged child comes into active and prolonged contact.



Unfortunately, this has not occurred. The disadvantaged child too often falls farther and farther behind and his I.Q. actually declines. *All studies agree that poor reading skill acquisition at the start is the basic cause of later school dropouts and subsequent unemployment and unemployability.* Most of the dropouts and the unemployables joining the Job Corps Camps are functional illiterates. Their inability to read constitutes the greatest problem facing the Camps and other vocational training programs. They must be taught to read in order to acquire the skills to make them employable.

THE HIGH COST OF A DROPOUT

There are 11.5 million adults in the U.S. today—roughly one in ten adults—who have less than a sixth-grade education. There are 2.7 million adults who have never been to school at all. There are 23 million adults who have never finished grade school. According to the United States Office of Education, over 30% of the U.S. adult population are functional illiterates.

The economic loss of each dropout has been stated to be well over $100,000 in reduced lifetime earnings, smaller tax payments, welfare and unemployment benefits paid, increased delinquency, twice the average illness rate, and reduced purchasing power. The economic cost of illiteracy and undereducation is estimated to cost the U.S. economy over $100,000,000 per year.

DOUBLE TASK FOR EDUCATION

Thus education has a double task. It must equip the so-called **advantaged child** with the intellectual curiosity, the love for intellectual values and the independence of mind so vital in comprehending problems and devising solutions in the space age. The ERE learning system accomplishes this because it arouses and stimulates curiosity, promotes independence of thought and self-reliance in solving reading and writing problems. Such attitudes carry over into other activities. It must also furnish the **disadvantaged child** with the reading skill needed for vocational and technical training and employment.

INVESTIGATION INTO THE NATURE OF LEARNING

The ERE learning system is the final achievement of an investigation into the nature of learning by Prof. Omar Khayyam Moore, which began at Yale University in 1958. Using the teaching of reading to non-reading very young children as his investigative approach, Dr. Moore evolved certain techniques to facilitate both his research and the learning processes of the children. The method was very successful but was restricted by its inherent limitations to being a research tool.

There then ensued a four year developmental effort headed by Mr. Richard Kobler of the Thomas A. Edison Research Laboratories, Division of McGraw-Edison Company, in collaboration with Dr. Moore. The joint effort resulted in the development of the ERE learning system, representing the practical embodiment of Dr. Moore's original methodology.

Dr. Moore's investigations with the youngsters reinforced the conclusion that the human mind is extraordinarily open between the ages of two and five, and that these years are the most creative and intellectually active periods of our lives. This is when children first acquire speech and begin to classify their environment. During this period they are capable of amazing feats of inductive reasoning if left to themselves in a properly "responsive environment".

If three year olds listen and talk (both rather difficult mental operations), Dr. Moore believed they should be able to learn to read and write. The ERE learning system has



shown they can. It has also shown that non-reading teenagers and adults can, too, using the same basic methodology but with different program content.

"TRIAL & SUCCESS" METHOD

The basic operation of the ERE learning system is described in another section, but it is important to note here that ERE never permits a student to commit an error. Incorrect responses cannot be completed on the computer directed, blocked keyboard. The pupil always proceeds on the principle that "Perfect Practice Makes Perfect". The commission and repetition of errors is self-perpetuating and inimical to the needs of the student. ERE prevents this. Hence, the ERE method is one of "trial and success"—always!

A new "expandable keyboard" has been developed for the ERE learning system. With this keyboard, only a few symbols are exposed to the child. As they are mastered, additional symbols are revealed. In this way, stress situations are avoided and the child can proceed at his own deliberate speed. An error pattern recorder that keeps a complete record of each student's correct and attempted responses is also available in conjunction with the expandable keyboard. This has been developed at the request of psychologists and other researchers interested in the use of ERE to study human learning patterns.

FLEXIBILITY OF PROGRAMMING

The multiplicity of capacities for teaching by the ERE learning system may be indicated by regarding it as a Multi-Sensory Methodology utilizing sound, sight and touch simultaneously, all of which may be varied as required. The ERE learning system is so flexible that any teaching methodology may be incorporated into the programs presented. Despite the sophistication of ERE's engineering, it

can be programmed quickly and easily by anyone who can type and speak clearly, using the typewriter keyboard to make the programs.

No digital computer programming technique or compuer "language" is required. There are no programming "bottlenecks" with ERE. A teacher can prepare, if she wishes, a program for the particular needs or interests of a child in a few minutes.

This great flexibility is especially valuable when dealing with the disadvantaged child. In some metropolitan school districts, for example, the school turnover is 110% yearly. The problem of relating to different classrooms and teachers adds to the child's difficulties. However, ERE programs which have been made for the specific child may be forwarded to his new school and so provide a continuously constructive and familiar environment, thus enhancing the child's chances for academic success.

OTHER TEACHING USES

The ERE learning system can be programmed to instruct in any one of six languages merely by turning a dial. It can also teach foreign languages, geography, history, arithmetic, algebra, the contents of a driving manual as well as many other subjects.

SIGNIFICANT RESULTS

The ERE learning system has already accomplished much significant and useful work in its pilot programs. In fact, its potential as an instructional device and as a research instrument has been underestimated.

HAMDEN HALL EXPERIENCE

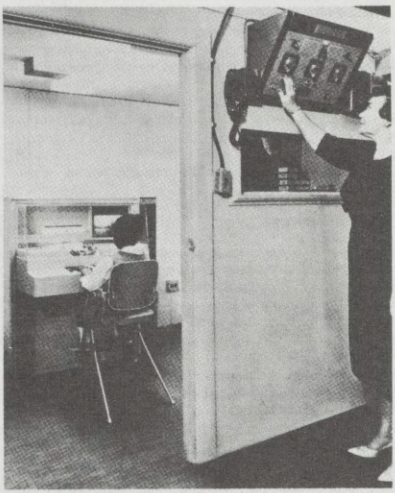
At the Hamden Hall Country Day School near New Haven, Connecticut, pupils learned to read, write, type, take dictation and compose their own stories before they entered first grade. First graders read fourth grade geography books. Four year old children working with ERE for only four months were able to write full sentences. Five retarded boys and girls who had been rejected by public kindergartens because of their low I.Q.'s and behavior problems came to play with the ERE learning system. After seven weeks their attitude had improved enough for their schools to take them back conditionally. After a year of work, all had learned to read and are doing satisfactorily in school.

THE FREEPORT EXPERIMENT

In the winter of 1964, the Freeport (N.Y.) Public School system conducted an experiment to determine the validity of the ERE as a teacher of reading to kindergarten and mentally retarded children.

A report by Dr. John Henry Martin, Superintendent of the Freeport Schools discussed the experiment and the results. His conclusions were as follows:

1. The ERE instrument taught within five months (actual time at the instrument ranged from 22 hours to 36 hours) twenty kindergarten and mentally retarded young children to read significantly better than twenty children carefully matched by a series of criteria who were taught by enriched traditional reading methods.
2. Children with less intelligence scored as significantly superior as did the brighter children.
3. Negro children in the group were indistinguishable by their scores from the remainder of the group.



MARY IMOGENE BASSET HOSPITAL

The Pediatrics Dept. at Mary Imogene Basset Hospital at Cooperstown, New York is carrying on ERE programs with handicapped children under the direction of Dr. T. Campbell Goodwin, and his wife, Dr. Mary Goodwin. In February, 1964, an ERE instrument was installed for the purpose of determining the effect of ERE therapy on children with various mental and physical handicaps. A number who have used the ERE since it was installed have been diagnosed as suffering from autism, a baffling and distressing form of childhood schizophrenia that thus far has defied conventional psychiatric treatment.

According to a New York Times report of Friday, March 12, 1965, the ERE learning system is credited by the doctors with remarkable success in radically improving the condition of several of the children. One who was on his way to a state mental institution is now going to public school after having been considered hopeless one year ago. Other autistic children have made striking gains. Similar progress has been obtained with children handicapped by other problems including brain damage, speech defects, and teen age reading retardation.

TRADITIONAL REMEDIAL READING PROGRAMS UNSUCCESSFUL

There are a number of conclusions to be drawn from the foregoing discussions: Until now, our educational experience has revealed a disheartenlingly high failure rate in dealing with remedial reading problems. Similarly, our educational programs have not been outstandingly successful in stimulating intellectual curiosity and the desire for intellectual accomplishments in large numbers of children. In fact, the notion that there is joy in learning has virtually disappeared from learning theory and educational practice.

Language laboratories and teaching machines of one kind and another have been developed in the attempt to solve these problems but they have not been conspicuously successful. Their programming has been inflexible, and not related to the needs of the individual child or the individual group.

ERE JUSTIFIES OPTIMISM

The availability of the ERE learning system radically changes the picture. ERE has proven that it does teach reading with consistent success. Because ERE is so flexible, programming may be prepared by the local school system and teachers. Autonomy and initiative in lesson preparation may be retained. Furthermore, the material in the program can be more directly related to the child's own interests. **ERE has as much or more application to the advantaged child as to the disadvantaged child.** It has shown that all students do enjoy learning and that learning to read is a fascinating and absorbing experience for students of all types.

The advent of the ERE learning system is of especial importance to government training programs. It has been established that many Job Corps trainees do not have the reading skill required to begin to learn a trade. In fact, many could not qualify for a vocational school on the basis of their reading ability. For such young adults, remedial reading programs of the traditional type do not suffice. ERE however, can be programmed more directly to their interests and needs and can successfully motivate them to learn to read, and subsequently to learn trades.

LOW COST WITH ASSURED RESULTS

In terms of cost, the ERE learning system offers the least expensive method of teaching reading with assured results. An ERE learning system can train approximately 64 pupils per 16-hour day for about $60 per student. This cost should be compared with the cost of conventional methods of retraining, custodial care and other types of remedial projects dealing with the result of failure to teach reading as the primary skill required for living today. The cost of custodial care of one person in a state hospital is over $100,000 during the person's lifetime. Training at a Job Corps Camp is $4,800 per student. A "Farms" type of institution for delinquents costs $5,800 to $8,500 per year per individual. These figures do not reflect at all the loss to society of the constructive contributions the people behind the figures might have made nor the unhappiness and suffering undergone by those involved.

ERE AND THE FUTURE

Research work already done with the ERE learning system has established that it has vast application in the attack on illiteracy among adults, in teaching both the disadvantaged and the advantaged child and the mentally retarded to read, and in rehabilitation work with children with emotional problems.

However, much remains to be investigated and the use of the ERE learning system in these projects promises rich rewards for researchers. Can the ERE learning system help children and adults who are physically handicapped; the blind, those suffering from deafness and loss of hearing, aphasia sufferers, and victims of debilitating diseases and strokes?

Much remains to be learned about teaching subjects on ERE such as languages other than English within the native country. While there is every reason to believe that ERE can be utilized successfully in other countries, it remains to be actually tried in each language area. The gigantic task of alleviating illiteracy throughout the world remains today. ERE can play a major role in this war on ignorance.

The pilot ERE programs have yielded much data, and have indicated the opportunities that ERE offers. But now, large scale programs with thousands of students at every age category are needed. Only then will the true efficiency of ERE and the responsive environments methodology become implemented. Additionally, studies should be made to fully determine the ancillary effects of such system changes on the surrounding community.

Studies indicate that approximately 60% of all children needing psychiatric help have learning problems and that most of this group are non-readers, or have severe difficulties in learning to read. Similar statistics exist for juvenile delinquents. Research is surely indicated to determine the efficiency of ERE programs in these areas of high social cost.



TO SECURE AN ERE LEARNING SYSTEM

An ERE learning system may be purchased outright, leased or rented. Delivery schedules and financial arrangements to fit the needs of the individual school system, institutions or organizations will be promptly explored and discussed.

HOW ERE WORKS

EXPLORATION PHASE

The slightest depression of any key of the keyboard immediately results in pronunciation of the respective key symbol through a speaker and of course in the typed reproduction of that symbol on the typing paper. ERE remembers whether to pronounce "Upper Case" or "Lower Case" symbols, dependent upon whether the machine is in either one of these conditions. A simple turn of a switch by the attendant will cause ERE to pronounce these keyboard symbols in one of **six different languages,** such as English, French, German, Italian, Portuguese, or Spanish. These language channels can be programmed to pronounce key symbols either in the form of letter names or phonetically. Not more than one key can be depressed at a time.

Most important is that the **keyboard remains blocked while ERE pronounces a key symbol.** This patented feature prevents an unintelligible "audio-mix-up" and also "wild" typing.

The keys are divided into nine "color groups" corresponding to the nine fingers used in standard touch typing. The pupil's fingernails may be painted in corresponding colors and many ERE-pupils have become touch typists without special training or effort. This is particularly important to older students where this job skill is important.

Lights associated with the Upper and Lower Case keys always clearly indicate to the student in which of the two conditions the typewriter is operating.

The ERE keyboard contains all basic alpha-numerical and algebraic symbols and features three keys with six foreign accent symbols.

All movable parts (with the exception of the keyboard) are placed behind a lucite housing to place them out of reach of the pupil.

An extra large type font provides maximum legibility, particularly for small children, and an automatic carriage return feature permits the children to type to their hearts delight without worrying about the paper advance.

On the Remote Control Panel, the number of key stroke operations of the pupil are registered as well as the time he has spent with ERE.

Since ERE-systems are usually placed into soundproof booths with one-way mirrors, ERE features an Intercom System between pupil and attendant which is used mainly for the pupil to give an indication whether he would like to terminate the session prior to the scheduled time allotment. One attendant can easily supervise 5 to 10 booths. Most important, the attendant may be an unskilled person and the keyboard can be recorded by any person with a good diction by simply depressing a particular key and pronouncing this key symbol. Even for the most sophisticated operation of ERE, no programming-skill is required. **Any person who can type and speak can program ERE.**

FULL OPERATION OF ERE

Most students, having "explored" the keyboard for several sessions become quite familiar with most, if not all, keyboard symbols and ther phonetic meanings. Now, a new "game" is introduced.

FROM LETTERS TO WORDS, SENTENCES AND STORIES

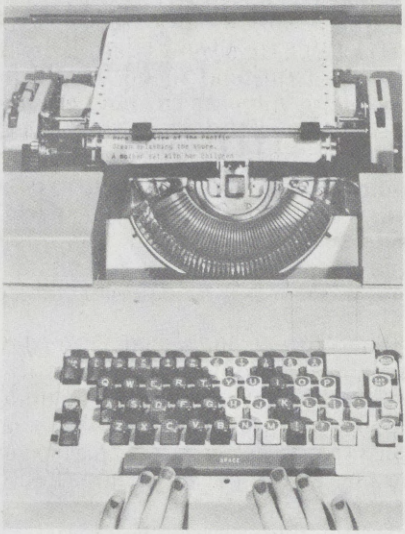
Immediately behind the typewriter there is a brightly lit window. A sophisticated "pointer band system" permits the showing of one single letter at a time, or of cumulative letters of a single line, or several lines. Furthermore, a red pointer always points towards a single symbol. Let us start with a single letter, say "C", shown in the window and pointed to by the red pointer. **Immediately after "C" is exhibited, ERE pronounces "C" (again in any one of six possible languages) and physically locks the total keyboard with the exception of the single key corresponding to the exhibited symbol.** Should the pupil try to depress an incorrect key, it will immediately encounter an unmistakable, clear physical resistance—a tactile error response. The pupil can thus proceed silently with his search pattern until he finds the "C" key. The moment the pupil depresses the "C" key, it is tied, and simultaneously pronounced, then the next letter, say "A", is exhibited in the window and pointed to by the red pointer. It has been our experience that this immediate **tactile error response is particularly important.** Not only does ERE prevent a wrong response but stops such an attempt at the **earliest possible moment,** prior to the commission of the attempted error.

A crucial patented feature prevents a stalemate between student and instrument. Should the pupil not find the correct key within a given number of seconds (the time is adjustable), the **pronunciation of the exhibited letter, is automatically repeated in regular intervals.** Particularly with beginners, one can observe many times, during a single session that the pupil would call for the help of an attendant without such widely spaced but definite repetitions of the audio input. A further sophistication of this repeat principle is the feature that ERE can alternately pronounce key symbols **and another clue;** for instance, the letter "A" is pronounced and a few seconds later the words "yellow key" are pronounced, followed a few seconds later again by the alternate pronunciation of the letter "A", "yellow key", etc. In this manner, ERE does precisely what a good teacher would do. Whenever the pupil depresses the correct key this whole cycle is repeated with the next letter which appears in the pointer-band window.

ERE knows when **not** to move the pointer. For instance, when going from Lower Case to Upper Case or vice-versa, ERE will first pronounce "Upper Case" and then the key symbol while pointing, during **both operations,** toward a single letter in the window. In order to facilitate Upper and Lower Case operations by the pupil, lights associated with Upper and Lower Case are activated whenever a change of case occurs in the program.

To the right of the pointer-band window is a **Projector Screen** on which additional program material can appear. For instance, the letter "A" in the window can be associated with an apple on the screen; or the letter "A" can appear on the projector screen and, still, the only key which can be depressed is the "A" key.

ERE will show and pronounce and encode symbols in precise sequence, and automatically give all clues necessary for the child to proceed successfully, while preventing errors with the patented blocked keyboard.



After a very few sessions, the pupil is ready for words and sentences. The pointer system is changed so that up to one complete line can be exhibited in the window, while the red pointer still points at any time to only one single symbol. Say the pupil has succeeded in typing the three letters "C", "A", "T"; he has been further instructed to depress "Space". **ERE will now pronounce the word "CAT", respell it and give any other programmed explanations.** Obviously, such spoken explanations can be coupled with an appearance of a picture of a cat on the projector screen. Such spoken and visual explanations can be interspersed into the program at any time, tying into the text appearing in the pointer-band window.

TOTAL INVOLVEMENT

Finally, ERE can also involve the pupil's own speech. For instance, having pronounced and respelled the word "CAT", ERE will ask the pupil to repeat this word and its spelling. **ERE will automatically record the pupil's voice and compare his pronunciation and spelling with ERE's own pronunciation and spelling.** Having done so, ERE will automatically proceed to the next word. ERE, thus, **involves not only the two "passive" senses of looking and hearing but the eminently active "tactile" and "speech" phases of the pupil's learning pattern.**

The combination of the above features not only makes ERE an outstanding instrument for the **teaching of reading,** but also for the **teaching of a refined form of speaking of one's own natural language** and of course becomes an outstanding **foreign language teacher.** Finally, ERE is fully equipped to teach almost any subject including geography, history, arithmetic, algebra, etc. For foreign language teaching, an automatic backspace operation is incorporated to facilitate the placing of accent symbols over letter symbols.

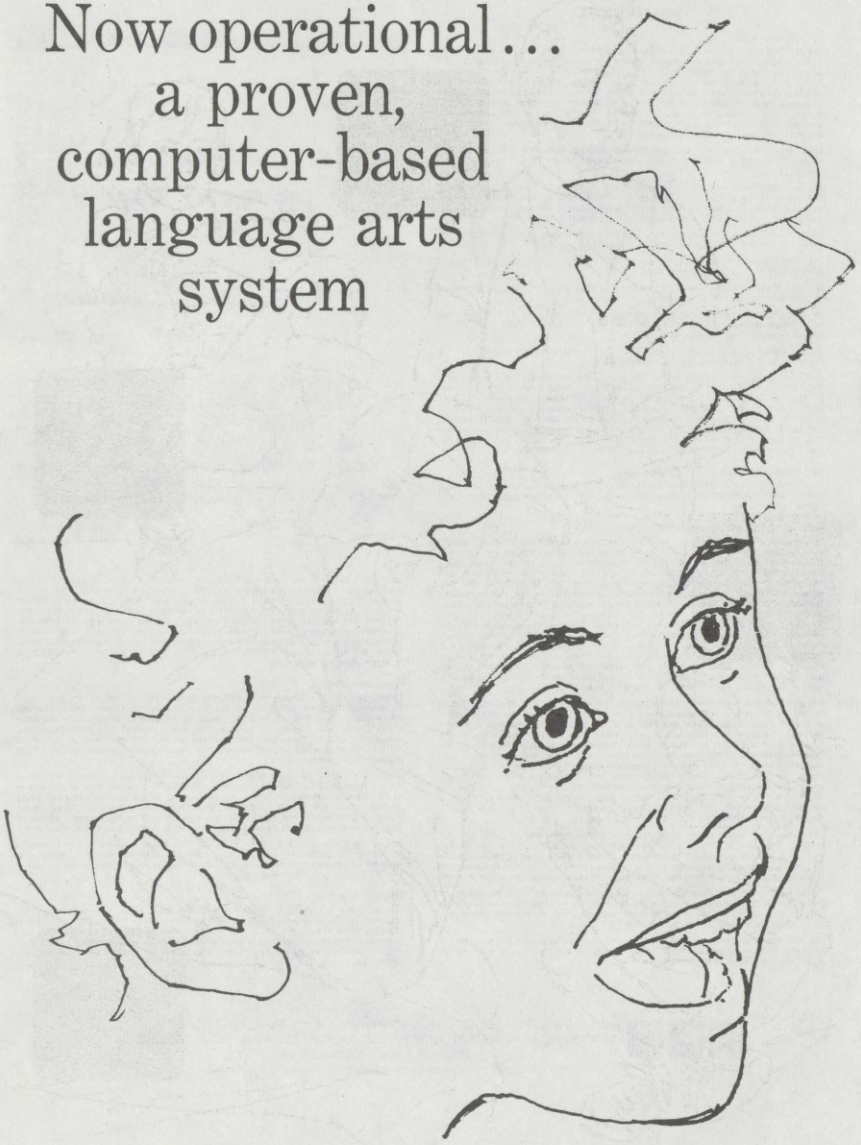
One of the miracles of ERE is the ERE Card. This single flat card not only contains the visible text on its front but, all programming and audio information is magnetically recorded on the back. It makes both the programming as well as the operational part of the ERE "child's play" for the attendant.

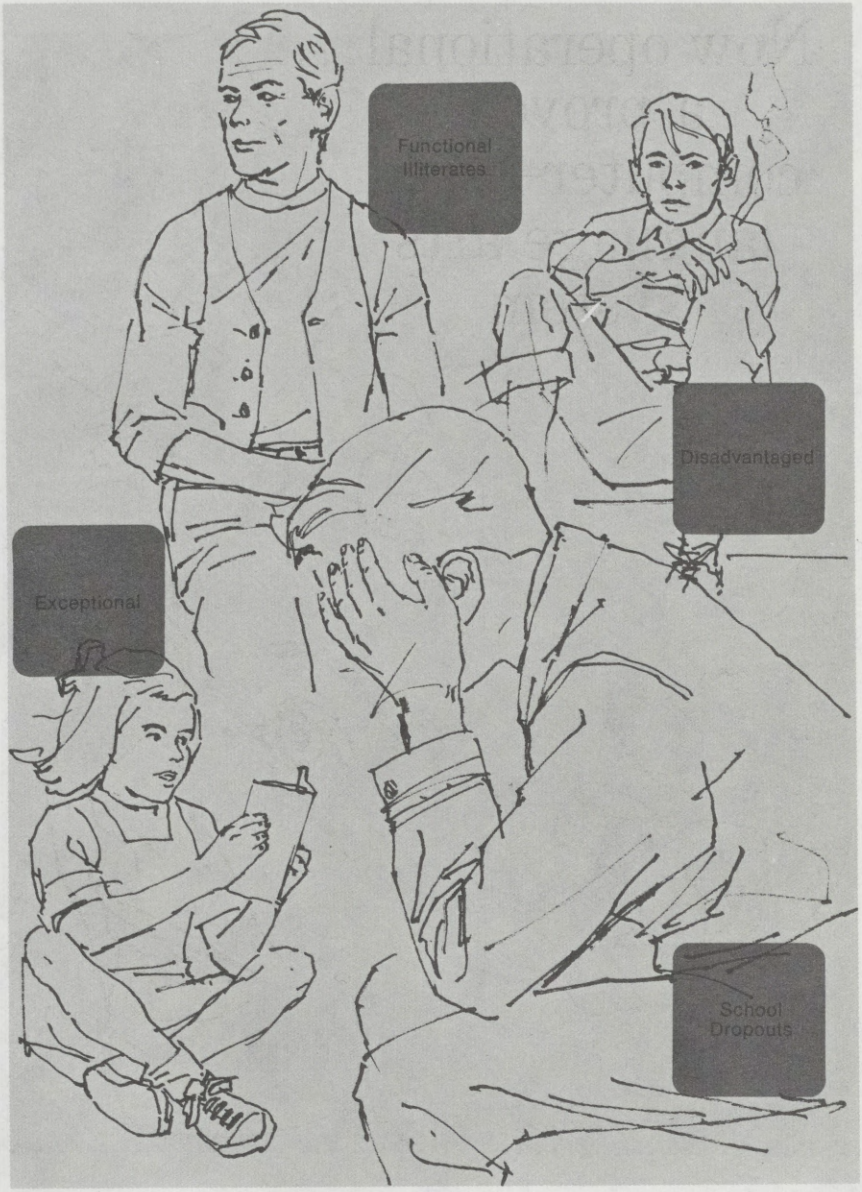
PROGRAM FLEXIBILITY

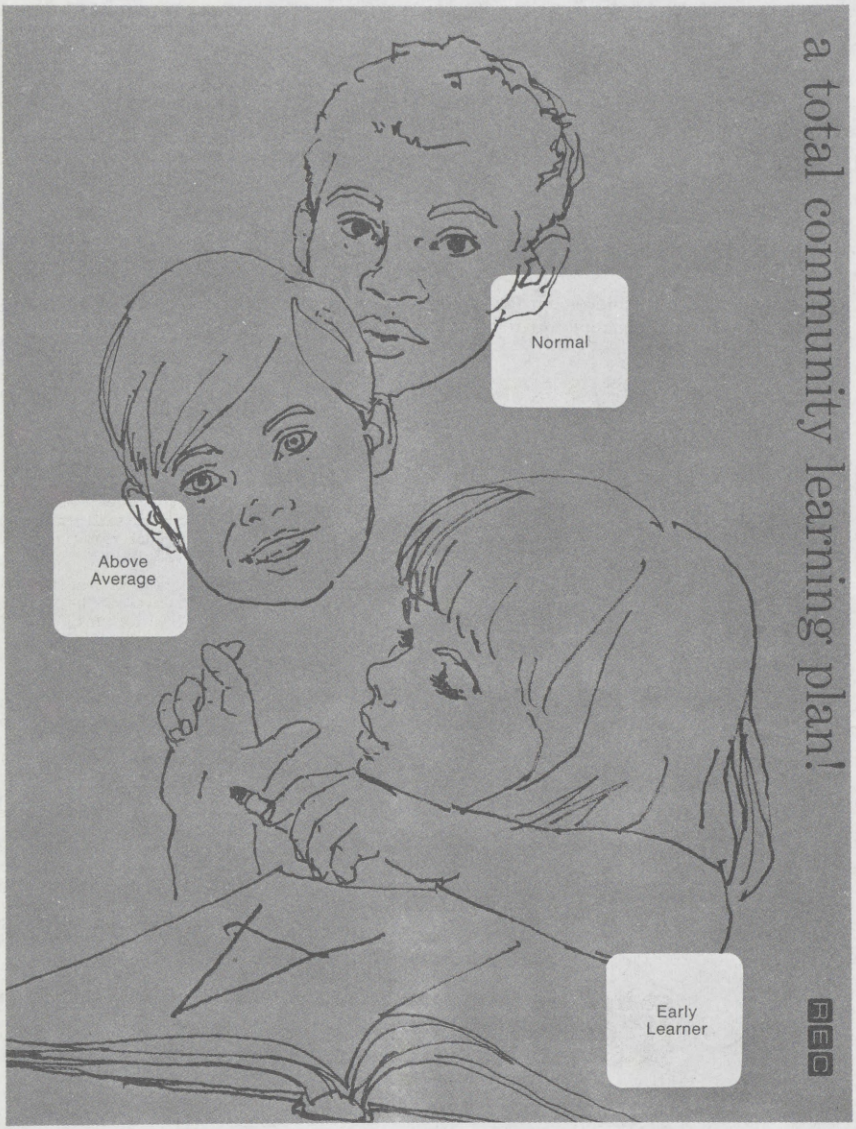
ERE programs can be made to omit any of the usual audio or visual stimuli. For instance, the fading technique may be used by leaving blank the visual on the front of the card while keeping the audio. And obviously, the opposite can be done. This programming flexibility allows almost any methodology to be incorporated into ERE. Even testing can be done by having ERE ask a question and programmed to accept only correct typed answers.

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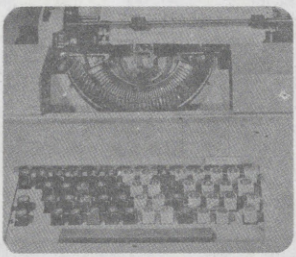



Functional
Illiterates
Disadvantaged
Exceptional
School
Dropouts

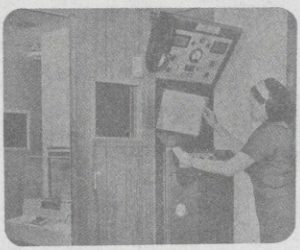

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Standard typewriter keyboard has keys divided into 9 color groups to make learning faster, easier.



Complete reading programs at various grade levels, are available *now*.

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The Growing Need

Today society and the educational community face a growing array of problems in successfully teaching the language arts. To solve them is the challenge and responsibility of us all. And the fact is that they *can* be faced and resolved right now — and at low cost. Procrastination merely compounds and intensifies the situation.

An examination of statistics released by the United States Office of Education reveals:

There are 11.5 million adults in America today who have *less* than a sixth-grade education — roughly one in ten. There are almost 3 million adults who have never been to school at all. There are 23 million adults who have never finished grade school. And over 30% of the U.S. adult population are functional illiterates — those who cannot read or write sufficiently well to hold a job requiring basic reading skills.

It is this basic reading skill which serves as the foundation of all learning. Without it, the door to training in all other skills — the pathway to education itself — is blocked.

Realizing this, we find even *more* sobering facts to add to the learning problems which confront us: The number of children who are retarded in reading ability by as much as five grades and more; the number of non-readers leaving school each year; the present-day lack of sufficient effective remedial reading programs; the great need for trained teachers to handle such programs. And then, of course, there is the cost . . .

The Staggering Cost of Under-Education!

The economic cost to society of illiteracy and under-educa-

tion in the U.S. has been estimated to total *over one hundred billion dollars per year!* During the same period, the total sum expended on *all* education in the U.S. amounts to less than *half* that amount!

Many of our cities have become centers of frustration, seething with autogamous children and adults — people who live on the fringe of an economic system they cannot enter — who are lost to an educational system from which they have dropped. To a lesser extent, the same situation exists in towns and in rural areas as well.

The problem is not going to be solved by our existing procedures. Because if we were to retain our present teacher-student ratio, then, by 1972, fully 50% of all college graduates would have to enter the field of education simply to maintain it in a status quo position. And the same learning problems, compounded in number, would still exist.

Realistic Action Called For!

Education's task grows every day. And the problems of improving and enlarging our educational facilities call for immediate, realistic, remedial action. New methodology, broader concepts, fresh approaches are needed now. Today's children cannot wait for the hopes and dreams still on someone's drawing board!

A Proven Solution to the Problem . . .

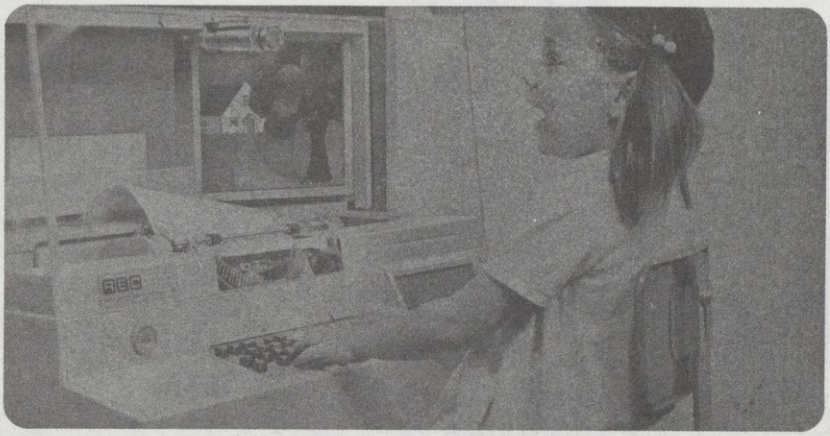
R.E.C. TOTAL COMMUNITY LEARNING CENTERS!

The R.E.C. Community Learning Center concept is a tested and proven method of teaching the language arts to masses of students on an individual basis. R.E.C. Learning Centers are now in continuous operation in communities throughout the United States. Remarkably successful, they teach reading and other skills to children from pre-kindergarten age on through school dropouts and illiterate adults.

Heart of the R.E.C. Learning Center concept is the multisensory, computer-based "Talking Typewriter." This unique instrument contributes a depth and scope to education which was never available before.

Its Versatility Complements Your Individual Programs . . .

The R.E.C. Language Arts Learning System is designed to supplement and become an integral part of your own school system's curriculum. The versatility of the "Talking Typewriter" allows your philosophy and your teaching techniques to be incorporated into the system. It invites customized adaptation to an individual student's special



The "Talking Typewriter's" trial-and-success method does not accept failure... builds confidence with immediate success.

problems where required. Any lesson can be successfully programmed by the instructor in any methodology, or combination of methodologies. The "Talking Typewriter" provides the capability of continuously enriching your language arts curriculum. Its value as part of your on-going instructional program is further enhanced by the availability of R.E.C.'s expanding library of standard, tested programs — programs for early readers, for the disadvantaged, for remediation, and for adults.

Computer Language Not Spoken Here!

Computer programmer specialists and trained computer engineers are not required to operate the R.E.C. Learning System. The "Talking Typewriter" is programmed in normal English (or a foreign language), and can be encoded even with one finger. This is distinctly unlike other computer-assisted instruments which require programmers trained in special computer language. The "Talking Typewriter" can be handled by your own staff after only a few days of training provided by R.E.C. This assumes major significance when it is realized that today there is a shortage of some 50,000 professional programmers for other computer equipment. The R.E.C. system eliminates the problem of obtaining these very scarce personnel.

The More Hours It Teaches, The More Your Community Benefits

Your community language arts center can operate day and night all-year-'round. Typically, the system can be used during the mornings for pre-school and kindergarten children, mornings and afternoons for elementary grade students, late afternoons for school dropouts and remedial reading for high school students, in the evenings for illiterate and non-English-speaking adults.

Your Teaching Staff Increases in Value . . .

The total community learning system available from R.E.C. dramatically increases the value of your teaching staff. Teacher controlled, it individualizes teaching the language arts. It strengthens teacher-student relationships. It frees instructors from much of their repetitive routines. It gives them more time to devote to teaching how to learn, stimulating creativity, analyzing each child's needs, and developing an individualized curriculum for him, developing positive attitudes, fostering the ideas that come of original thinking. Individual students — the gifted, the exceptional, the disadvantaged — who really *need* more time with their teachers can get it. Suddenly, instructors find themselves with a new opportunity to become developers of *human potential.*

LANGUAGE ARTS SYSTEMS ARE AVAILABLE NOW!

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R.E.C. Tested, Proven Programs Available Now!

The R.E.C. library of tested and proven programs is designed for beginning reading, remedial reading, and adult literacy.

Tested . . . And Proven Successful!

Local governments and local boards of education have the assurance that the R.E.C. Learning System has been proven successful over and over again in actual use*. R.E.C. invites you to see for yourself by visiting any of the centers of varying sizes.

Responsive Environments Corporation computer-based community learning systems are ready — *now* — to help you raise the standards of education in your school system. They are ready — *now* —to teach the language arts —the bedrock of all education.

*In addition to outstanding progress and statistically significant results in reading achievement scores, student response is so remarkable that a report from the New York City Board of Education pertaining to its Responsive Environment Program Center in Brooklyn indicated a dramatic drop in absenteeism among a group of chronic high school truants.

The Critical Educational Issue Of Our Times Is Reading . . .

THE "TALKING TYPEWRITER" IS THE ANSWER TO IT!

The success of the "Talking Typewriter" was achieved through years of extensive research and testing with students. It was developed by the Thomas A. Edison Laboratories of McGraw-Edison Company, an R.E.C. affiliate.

A Multi-Sensory Instrument

The "Talking Typewriter" is a multi-sensory (sight, sound, tactile), multi-media, fully synchronized, computer-based learning system. It teaches the language arts (reading, writing, spelling, speech, and other skills). Information is presented both audibly and visually, with any desired sequence of letters, words, paragraphs, instructions, or graphics — in as many as six languages.

It Creates a True Responsive Environment

It accepts and responds to simple as well as complex behavior from the learner who uses it. It provides a completely synchronized, multi-media environment that matches the multi-sensory paths to learning of each individual student.

Specifically, the "Talking Typewriter" — with unending patience — responds to students of all ages. It presents the curriculum calmly and patiently. Its "trial and success" method (the instrument will not accept an incorrect response and stimulates the student to keep trying) provides a constant flow of responses resulting in continuous success, building self-confidence in the learner.

It is completely non-authoritarian and non-punitive. Students enjoy it and respond to it. The "Talking Typewriter" provides a truly "responsive environment." The student is always the central actor. The instrument always responds to him. It encourages his creative spirit and energy and develops positive attitudes towards learning itself, attitudes which have dramatically improved many student's entire behavioral patterns.

In each tutorial session of 15 to 20 minutes, the "Talking Typewriter," responding to the student, evokes from him a continuous learning dialogue involving hundreds of responses. This is true even with the functionally illiterate, the disadvantaged, the emotionally disturbed, the exceptional student, and the school dropout.

How Much Does the System Cost?

The average per student cost of an elementary school education, using conventional methods, is approximately $3,700.00*. A major portion of this sum is spent teaching the language arts. (Approx. 40% or $1,500 per student.)

However, the teaching of language arts in conventional ways is no guarantee that these arts are being *learned*. Many students do *not* learn — or do not learn all they might have and are expected to learn. Tragic national statistics bear this out.

The R.E.C. Learning System can serve thousands, or as few as several hundred children and adults, for an annual equipment cost per person of about $130.00. With a tested program assuring quality results you can now bring 20th Century technology to your community at a cost well below the usual assumptions about "high-priced" technology.

*Based upon seven years (grades K-6) in an elementary school at $530.00 per year per pupil, the current mean expenditure.

For Any Size Community . . . A Total Learning System!

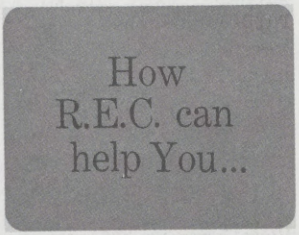
Whether your school community has 4 thousand children and adults, 6 thousand, 8 thousand, or many thousands more makes no difference in the application of the R.E.C. Language Arts System. The number of centers or instruments needed can be tailored to fit your needs.



R.E.C. — The Developer of This New Learning System

Responsive Environments Corporation is directed and staffed by experienced men and women who are devoted to the creation and application of learning systems.

R.E.C. is the acknowledged leader in making available proven learning systems for mass use. Field tested and proven over a 7 year period under actual school conditions, more R.E.C. computer-based learning systems are now in use than all other computer-assisted systems combined.



Responsive Environments Corporation will provide you with a comprehensive Language Arts System to teach reading and other skills to pre-school and early reading students, to those in need of remedial training, and to illiterate adults. R.E.C. will: ■ Help analyze your educational needs, and prepare an all-inclusive plan with you which falls within your budget requirements. ■ Assist you with the selection and design of your Learning Center site or sites, install computer-based Language Arts Learning Systems for parts of your community or your entire community, and maintain them. ■ Supply a broad library of proven programs for pre-school and early reading, for the disadvantaged, for remedial training, and for adult literacy. ■ Show you how you can custom-design programs to correlate with your specific reading curriculum, as well as for individual children. ■ Insure proper phasing and coordination. ■ Train your director, teachers, and non-professional teachers' aides in operating procedures and scheduling, and include instruction in how to program in English. ■ Integrate programs with your reading curriculum specialists. ■ Conduct seminars, and provide follow-up service and assistance. ■ Aid you in building better community relationships.

R.E.C.'s staff of professional educators and consultants is ready to assist you now. We will respond rapidly upon your request. Or, for more information on a Community Learning Center, send for our new brochure, "A Computer Based Language Arts System for Your Entire Community." R.E.C. also has available, for group showings, a new 16 mm. color sound film presenting the intriguing story of the "Talking Typewriter."

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SENATOR MORSE. May I say, counsel, that the subcommittee cannot meet after 12 o'clock today? Therefore, we are going to have to follow rather closely the time limitation on the witnesses. We won't be able to get over all that you have listed here. Some of them are going to have to come back for the next hearing.

The two witness held over from Friday, I shall call now.

The first is Mrs. Dorothy Steffens, legislative chairman of the Women's International League for Peace and Freedom.

Mrs. Steffens, will you accept my apology on behalf of the subcommittee for keeping you waiting? We go as far as we can. In this business, I may say I cannot do anything about it.

Mrs. STEFFENS. It has been very educational, Senator. I welcome the wait.

STATEMENT OF MRS. DOROTHY STEFFENS LEGISLATIVE CHAIRMAN, WOMEN'S INTERNATIONAL LEAGUE FOR PEACE AND FREEDOM

Mrs. STEFFENS. May I introduce Miss Judith Nies, who is the legislative secretary of the Women's International League for Peace and Freedom.

Senator MORSE. Thank you. I am going to put your entire prepared statement in the record at this point. You can handle it in any way you want.

(The prepared statement of Mrs. Steffens follows:)

PREPARED STATEMENT OF MRS. DOROTHY STEFFENS, LEGISLATIVE CHAIRMAN, WOMEN'S INTERNATIONAL LEAGUE FOR PEACE AND FREEDOM

My name is Mrs. Dorothy Steffens. My profession is education and I am appearing here today on behalf of the Women's International League for Peace and Freedom which has, since its founding in 1915, been working with women all over the world to use education as a tool to lessen fear and ignorance. During a rather long working life, I have worn a number of professional hats—the first as a National War Labor Board Economist. Most of my work, however, has been as a teacher (on all levels from nursery to graduate school), as a conference planner, and most recently as an adult educator assisting some of the training programs of the National Council of Negro Women.

I claim no great expertise in any one area. I speak humbly out of my personal experience with public and private educational institutions; out of an acquaintance with childrens' needs which are not being met by existing educational programs, and out of a compelling sense of urgency that time is running out.

Today I would like to address myself grenerally to federal responsibilities in the field of elementary and secondary education and specifically to the reasons for continuing categorical aid. America traditionally has had faith in education as the great leveler—at once developing the individual citizen and strengthening and unifying the nation. Out of our commitment to education came the early growth of the most comprehensive free public school system in modern history.

Responsibility for this system was left in the hands of individual states. This was reasonable when we were small geographically, had a relatively homogeneous population and seemingly limitless land and resources. The system worked well. As recently as the early 20th century, our accomplishments in providing free, universal education were a shining beacon. By the 1950's, however, Sputnik had made us aware that our education was failing to meet our national needs. The present decade has spotlighted the shame in our cities and illuminated the glaring failures of local and state authorities to meet the educational needs of the urban and rural poor as well as segregated minority groups. Events of this summer should make it unnecessary for me to belabor the point that failure to serve youth in any local community endangers the entire nation.

EDUCATION IS NATIONAL CONCERN

The student who leaves school with the equivalent of an 8th grade education and cannot find a job will be a drain on public services in his own town or city or in the city he moves to. Suppose we were to assess the cost of massive Federal educational aid in terms of the currently popular "cost-effectiveness" concept, not just for one school or one student or one year, but for the student's home community for a generation. What is the cost to economy of feeding, housing, clothing, providing medical care, prison custody, training school facilities, etc. for an unemployable man and his family for 30 years? for 20 years? for 10 years? How much would it cost to use education as our forefathers meant it to be used—to halt the "poverty treadmill" and educate young people to be self-supporting, self-respecting contributors rather than a drain upon our economic system.

Between now and 1970, 24 million new young workers will enter the labor market. One third of them will not have completed high school. A tenth of them will not have finished grade school. It is not surprising, then, that the unemployment rate for new workers under 25 is three times that of older workers. If present trends continue, this proportion is likely to increase substantially.

The uneducated children of our poor rural communities and city ghettos are the unreached and forgotten at the bottom of the American social heap. We educators have been calling them "the dropouts" from our school and social system. Out of my own experience, I have come to think of them as our "push outs". We identify them early on the basis of shamefully biased "intelligence tests". We imprison them into a "track" or niche and then proceed to wait with dispassionate professionalism for them to complete our own self-fulfilling prophecy that they were uneducable to start with.

What happens to the individual who dropped or was pushed out? He joins a pool of bitter, frustrated, unemployed youth with no real hope that he can ever earn a living and become a contributing, responsible member of society.

WHY SPECIFIC FEDERAL AID TO EDUCATION?

I mentioned earlier the agonizing re-appraisal of education that Sputnik engendered. As a result we began a wide scale, federally-funded, nation-wide effort to upgrade the teaching of science and mathematics from kindergarten through graduate school. It is significant that this program has resulted in substantial changes in the teaching of these subjects at every level and a corresponding improvement in student performance. Schools, universities, teachers and students have profited. I do not recall ever hearing a complaint about categorical aid in relation to this program.

The response to the growing national awareness of the needs of the urban and rural poor resulted in the Elementary and Secondary Education Act of 1965. It was aimed at the special needs of poor children as well as at general improvement of instruction for all children with emphasis on support of innovative and exemplary educational practices.

The Amendments which we are presently considering are meant to continue and improve these programs. The conclusion is inescapable that federal funds allocated for these specific programs force States to use funds in precisely the areas which they have most neglected in the past. No amount of complaining about federal interference can be permitted to obscure that truth.

The majority of school men testifying on these Amendments before the House Committee on Education and Labor advocated general educational aid to states administered as the state agency sees fit. In other words, they are asking for federal funds to be given with "no strings" to those administrators in those areas where state and local education failed to develop necessary programs, and in fact, spent their money where it was not most needed. For example, in urban areas with their high concentrations of low-income minority groups, the 1967 report of the United States Commission on Civil Rights reported that state aid formulas allot more money per pupil to suburbs than to cities. The Commission reported, "In light of the generally higher suburban expenditures, it would appear that the pattern of state education aid within metropolitan areas no longer fully corresponds to fiscal need. State aid programs designed decades ago to assist the then poorer suburban ditricts often support the now wealthier suburbs at levels comparable to or higher than the cities." (P. 28 U.S. Commission on Civil Rights)

State School boards reflect the political realities of the state. The wealth and power of a state is now generally to be found in the suburbs. Almost all new suburban dwellers are white, middle-class, white-collar workers. Left behind in the city school district are children—many of whom are Negroes—from low-income families. This separation between city and suburb populations is reinforced by increasing disparities in wealth. At a time when the financial burdens of central cities and the demands for social services are increasing, cities have been losing fiscal capacity. State aid to education has failed to equalize the growing disparity between suburban and central city schools. However, Federal aid to education under ESEA has been closing the gap. For example: Under Title I, the following cities and suburbs were entitled to the given amounts of aid per pupil.

Chicago, $66; suburbs, $9.
Baltimore, $41; suburbs, $11.
St. Louis, $50; suburbs, $7.
Detroit, $44; suburbs $11.

Nonetheless, we must note that during the 1965–66 school year Federal aid accounted for less than 8% of total education expenditures.

I seriously question my colleagues' solution that we suspend categorical Federal aid so that the suburbs may take pride in sending more of their students to college. While Federal aid will not of itself cure all our educational ills, I believe it imperative that we continue to make available to States funds for specific programs and in specific areas of education for the following reasons:

1. Federal aid is able to meet needs in areas where local and state budgets are inadequate. I have already pointed out the partially equalizing effect the ESEA funds have had in urban vs. suburban areas.

2. The day to day demands of operating the total school program usually prevent local school boards from taking a chance on an untried but creative plan. What competing pulls for funds, the responsible local official frequently dares not to take risks. Federal funds can do this and provide impetus for changing a static local situation.

3. In providing initiative for innovative programs, Federal funds and prestige have made it possible to utilize the special expertise of talented people from any disciplines and many parts of the country. In an age where extraordinary sophistication in teaching techniques is already available, the resources of the entire nation can be mobilized to promote experimentation and innovation. We are ready for the cross-fertilization of ideas drawing on many disciplines and extending well beyond county and state borders.

4. Federal funds are able to be concentrated in a specific area where the need is especially great, while State Boards of Education generally have to deal equally with the entire state. Federal funds can be allocated in massive amounts to improve education in poverty areas without being vulnerable to attacks of doing it at the expense of the suburbs. Local officials undertaking an educational program operate within a framework of local political necessity. However, at this point I would like to take into account the argument that it is very often the small or isolated school system most needing federal help which is least able to obtain it. I would urge that a provision be included to provide funds for staff and perhaps a regional training program to help school systems better negotiate the way to securing federal funds. They are often so overwhelmed with immediate needs that they simply cannot afford the time to draw up a well-planned long-range proposal.

5. Categorical aid can help to change the professional educator. For too long we have been "professional buck passers". We explain our failure to teach Johnny by saying "It's the fault of his home conditions. His environment is bad. He comes to school hungry—or sleepy—or unhappy. What can we do for him in school?"

I have come to feel that the educator must accept responsibility. We have the child for at least 50% of his waking day during the most formative years of his life. The poor parent in particular is helpless to make up the gap between what he knows his child needs and what he is equipped to give him. I should like to read an excerpt from a letter to a school teacher by the parent of an eleven year old student who was doing poorly and had not yet learned to read. There were five children in the family and at the time the mother was the sole breadwinner.

"Our hearts cry out for help and there seems to be no solution—no ears to listen, no help to be given. We have never given up hope that he would not be-

come one of the misfits of today's society and that his life would have meaning, and that in some way we could help him to be able to achieve some goal in life.

"There are the questions we ask ourselves everyday:

(1) What can we do to help him?

(2) Who can we go to for help?

(3) Where can we get real concrete help without being referred from one Department to another?

(4) Are there agencies where we can seek help without being on a long waiting list?

"Time is of essence because of Donald's age, and something must be done soon or it will be too late. I am sure you are aware of the many things that can happen to a child who grows up in our society, who is left out, cannot read, make decisions, or becomes a burden to society in later years. Educators, parents, specialist, must work together with these kinds of children to prepare them for tomorrow. We, as his parents, rely on your help and knowledge."

As parents they have no choice but to rely on the school staff for help and expert knowledge. The schools must be prepared to help answer their questions. Title I encourages schools to institute plans and enlist help specifically for such children as Donald. One exciting new use of Federal educational funds has been the training and use of para-professionals and aides. Since these aides come from the community being served, we are not only extending education but we are providing jobs and job training.

CONSEQUENCES OF RACIAL ISOLATION

The discussion of general categorical aid cannot be divorced from the realities of racial isolation in our public schools. Negro children suffer serious harm when their education takes place in racially segregated schools. The Coleman Report and the Report of the U.S. Commission on Civil Rights support my own perceptions in this field. Negro children who attend predominantly Negro schools do not achieve well, have lower aspirations, less confidence in their ability to influence their own futures, and are less likely to participate later in the mainstream of American life. Racial isolation in schools is also damaging to white children who grow up knowing almost nothing about persons different than themselves. They tend to place an exaggerated value on conformity, are frequently prejudiced and conspicuously self-centered. To give control of large federal grants to the very state educational authorities under whom racial isolation and unequal education have developed would be to use our funds in ways which will do nothing to promote change. Even where state agencies would like to use the funds to promote desegregation and improve schools, the political situation in which they operate may make such action impossible. Federal aid should be used to complement state and local efforts by encouraging and enabling them to do what our national policy requires.

Today we have suddenly become very conscious that American education is not adequate. Not only are we obviously failing to meet the needs of poor children and of the emotionally or physically handicapped, but we are also failing increasingly with middle-class so-called "average" children. One has only to look carefully at the composition of the DuPont Circle "hippies," at the Haight Ashbury "run aways", at the statistics on college dropouts and opt-outs and copouts; and at the growing incidence of nervous disorders among middle-class youth to recognize that many of our young people are crying for help.

Fundamental educational change is still to come in this country. I suspect it will not come until we begin to train school administrators in modern managerial methods as well as in education. The study by sociologist Morris Janowitz of big city public school systems lists Washington, D.C. along with the majority of city school systems which are run by such primitive managerial methods that they literally are unable to change—to accept and incorporate successful innovations. We still have to shake up the straight-jacketed thinking of professional educators and our compartmentalized approach to educational problems. Education today demands the flexibility to utilize knowledge from many different disciplines as well as the active support of business, labor, voluntary and civic groups.

Without government commitment to innovative programs in education and the means to convert innovation into fundamental change, we can only look

forward to the spread of the societal cancer which is now growing in our big cities.

It is the responsibility of the Federal government to plan, supervise and appropriate funds for the most farsighted and far reaching plans it can develop. And the funds which some might try to hold back for reasons of economy will be paid ten times over in welfare, in crime prevention, in court costs, in health centers and in all the social ills which result from wasted lives.

CONCLUSION

In conclusion I would like to say on behalf of the League that we support the continuance of categorical Federal aid to states as set forth in the Elementary and Secondary Education Amendments of 1967, and the Elementary and Secondary Education Act of 1965.

In particular, we support Amendments to the Vocational Education Act of 1963 which would provide funds for innovative programs in vocational education to enable students to receive training for a labor market which has declining opportunities for the unskilled. By 1970, the correlation between the 24,000,000 young people to enter the labor market in the next three years and their lack of vocational training will be evident mainly through unemployment statistics. As I outlined above there is a great need to involve labor, business and civic groups in evolving educational and vocational programs which will be meaningful both to the young person and to the community. Local businesses have shown little progress in involving themselves in vocational education. Hopefully this amendment will assist in developing programs which will produce such involvement.

We also support the amendment to Title V of the Elementary and Secondary Education Act which provides grants to the states for the purpose of comprehensive planning and evaluation. However, we hope that as part of this program states would be able to use a portion of their funds to provide advisors, if requested, to assist local school systems in drawing up plans to request federal funds for local programs.

Mrs. STEFFENS. My name is Mrs. Dorothy Steffens. My profession is education and I am appearing here today on behalf of the Women's International League for Peace and Freedom which has, since its founding in 1915, been working with women all over the world to use education as a tool to lessen fear and ignorance. During a rather long working life, I have worn a number of professional hats—the first as a National War Labor Board economist.

If I might insert parenthetically, I was privileged during this very first professional assignment, to contribute in some small measure to the landmark decisions of the able chairman of this subcommittee.

Senator MORSE. It was was not a small contribution. We could not have written the bills without the help of the economists. They supplied the data. I am delighted to have you back here this morning helping me in another capacity.

Mrs. STEFFENS. Thank you very much.

Most of my work, however, has been as a teacher—on all levels from nursery to graduate school—as a conference planner, and most recently as an adult educator assisting with some of the training programs of the National Council of Negro Women.

I can, therefore, claim no great expertise in any one area. I speak humbly out of my personal experience with public and private educational institutions; out of an acquaintance with children's needs which are not being met by existing educational programs; and out of a compelling sense of urgency that time is running out for us.

FEDERAL RESPONSIBILITIES

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Responsibility for this system was left in the hands of individual States. This was reasonable when we were small geographically, had a relatively homogeneous population and seemingly limitless land and resources. The system worked well. As recently as the early 20th century, our accomplishments in providing free, universal education were a shining beacon, to the striving people of the rest of the world.

By the 1950's, however, sputnik had made us aware that our education was failing to meet our national needs. The present decade has spotlighted the shame in our cities and illuminated the glaring failures of local and State authorities to meet the educational needs of the urban and rural poor as well as segregted minority groups. Events of this summer should make it unnecessary for me to belabor the point that failure to serve youth in any local community endangers the entire Nation.

I would add one caveat here. I have great respect for educators. I am one. Educators, however, have tended to become hidebound and tied within the straightjacket of policies and narrow vision and have become seemingly helpless in the face of what appears to them to be insurmountable problems.

COST EFFECTIVENESS

The student who leaves school with the equivalent of an eighth-grade education and cannot find a job will be a drain on public services in his own town or city or in the city he moves to. Suppose we were to assess the cost of massive Federal educational aid in terms of the currently popular "cost effectiveness" concept, which was mentioned here just a few moments ago, not just for one school or one student or one year, but for the student's home community for a generation. What is the cost to the economy of feeding, housing, clothing, providing medical care, prison custody, training school facilities, et cetera, for an unemployable man and his family for 30 years? For 20 years? For 10 years? How much would we save by using education as our forefathers meant it to be used—to halt the "poverty treadmill" and educate young people to be self-supporting, self-respecting contributors to, rather than a drain upon, our economic system.

Between now and 1970, 24 million new young workers will enter the labor market. One-third of them will not have completed high school. A tenth of them will not have finished grade school. It is not surprising then, that the unemployment rate for new workers under 25 is three times that of older workers. If present trends continue, this proportion is likely to increase substantially, and it is going up.

The uneducated children of our poor rural communities and city ghettos are the unreached and forgotten at the bottom of the American social heap. We educators have been calling them the dropouts from our school and social system. Out of my own experience, I have come to think of them as our "pushouts." We identify them early on the basis of shamefully biased, so-called intelligence tests. We imprison them into a "track" or niche and then proceed to wait with dispassionate professionalism for them to complete our own self-fulfilling prophecy that they were uneducable to start with.

What happens to the individual who dropped or was pushed out? He joins the pool of bitter, frustrated, unemployed youth with no real hope that he can ever earn a living and become a contributing, responsible member of society.

EFFECT OF SPUTNIK

I mentioned earlier the agonizing reappraisal of education that Sputnik engendered. As a result we began a wide-scale, federally funded, nationwide effort to upgrade the teaching of science and mathematics from kindergarten through graduate school. This has resulted in substantial changes in the teaching of these subjects at every level and a corresponding improvement in student performance.

I saw this at first hand in my work in several school systems during the period that that act was in effect. Schools, universities, teachers, and students have profited. As the panel which just completed its testimony indicated, there is a wide variety of tools just waiting for us to want to develop them; to learn to use them. A nation that has the capacity to do what we did in 1941 to 1945 can lick the problems of education in our ghettos very quickly if we but put our mind and our hearts to it.

The response to our growing national awareness of the needs of the urban and rural poor resulted in the Elementary and Secondary Education Act of 1965. It was aimed at the special needs of poor children as well as at general improvement of instruction for all children with emphasis on support of innovative and exemplary educational practices.

The amendments which we are presently considering are meant to continue and improve these programs. The conclusion is inescapable that Federal funds allocated for these specific programs force States to use funds in precisely these areas which they have most neglected in the past. No amount of complaining about Federal interference can be permitted to obscure that truth, nor negate that overarching need for compensatory, innovative, exemplary educational programs.

COMMENT ON AMENDMENTS

The majority of school men testifying on these amendments before the House Committee on Education and Labor advocated general educational aid to States administered as the State agency sees fit. In other words, they are asking for Federal funds to be given with "no strings" to those administrators in those areas where State and local education failed to develop necessary programs, and in fact, spent their money where it was not most needed.

In my testimony, I do cite some data on the disparity in State aid between urban and rural areas. I will skip those in the interest of time and refer you to the record.

State school boards reflect the political realities of the State. The wealth and power of a State is now generally to be found in the suburbs. Almost all new suburban dwellers are white, middle-class, white-collar workers. Left behind in the city school district are children—many of them Negroes—from low-income families. This separation between city and suburban populations is reinforced by increasing disparities in wealth. At a time when the financial burdens of central cities and the demands for social services are increasing, cities have been losing fiscal capacity. State aid to education has failed to equalize the growing disparity between suburban and central city schools. I have seen the gap at firsthand in my own work; first in a district with suburban Maryland schoolchildren and then with the deprived children and youth of Washington, D.C. However, Federal aid to education under ESEA has been closing the gap. For example: Under title I, the following cities and suburbs were entitled to the given amounts of aid per pupil.

In Chicago, $66, and in the suburbs, $9.

In Baltimore, $41, and in the suburbs, $11.

In St. Louis, $50, and in the suburbs, $7.

In Detroit, $44, and in the suburbs, $11.

Lest we become too optimistic we must note that during the 1965–66 school year Federal aid accounted for less than 8 percent of total education expenditures.

FUNDS STILL NEEDED

I seriously question my colleagues' solution that we suspend categorical Federal aid so that the suburbs may take pride in sending more of their students to college. While Federal aid will not of itself cure all of our educational ills, I believe it imperative that we continue to make available to States funds for specific programs and in specific areas of education for the following reasons:

1. Federal aid is able to meet needs in areas where local and State budgets are inadequate. I have already pointed out the partially equalizing effect that ESEA funds have had in urban and suburban areas.

2. The day-to-day demands of operating the total school program usually prevent local school boards from taking a chance on an untried but creative plan. With competing pulls for funds, the responsible local official frequently does not take risks. Federal funds can do this and provide impetus for changing a static local situation. They must make decisions and generally, make safe decisions. The responsible local official just does not dare to take risks.

3. In providing initiative for innovative programs, Federal funds and prestige have made it possible to utilize the special expertise of talented people from many disciplines and many parts of the country, and my several days of waiting before this committee have given ample proof of the kind of effect this has had. We have pulled in people from many different kinds of disciplines and we have utilized the abilities of people from other areas than just education. In an age where extraordinary sophistication in teaching techniques is already available,

the resources of the entire Nation can be mobilized to promote experimentation and innovation. We are ready for the cross-fertilization of ideas drawing on these disciplines and extending well beyond county and State borders.

4. Federal funds can be concentrated in a specific area where the need is especially great, while State boards of education have to deal equally with the entire State. Federal funds can be allocated in massive amounts to improve education in poverty areas without being vulnerable to attacks of doing it at the expense of the suburbs. Local officials undertaking an educational program operate within a framework of local political necessity. However, at this point I would like to take into account the argument that it is very often the small or isolated school system most needing Federal help which is least able to obtain it. I would urge that a provision be included to provide funds for staff and perhaps a regional training program to help school systems better negotiate the way to securing Federal funds. They are often so overwhelmed with immediate needs that they simply cannot afford the time to draw up a well-planned, long-range proposal, and enabling help can make a big difference to our poorer systems.

5. Categorical aid can help to change the professional educator. Here, I see a tremendous source of hope and a great help. For too long we have been "professional buckpassers." We explain our failure to teach Johnny by saying, "It's the fault of his home conditions. His environment is bad. He comes to school hungry—or sleepy—or unhappy; so what can we do for him in school"?

I have come to feel that the educator must accept responsibility. We have the child for at least 50 percent of his waking day during the most formative years of his life. The poor parent in particular is helpless to make up the gap between what he knows his child needs and what he is equipped to give him. I am going to read an excerpt from a letter to a schoolteacher by the parent of an 11-year-old student who was doing poorly and had not yet learned to read. There were five children in the family and at the time the mother was the sole breadwinner. She said:

> Our hearts cry out for help and there seems to be no solution—no ears to listen, no help to be given. We have never given up hope that he would not become one of the misfits of today's society and that his life would have meaning, and that in some way we could help him to be able to achieve some goal in life.
>
> These are the questions we ask ourselves everyday:
>
> (1) What can we do to help him?
>
> (2) Who can we go to for help?
>
> (3) Where can we get real concrete help without being referred from one Department to another?
>
> (4) Are there agencies where we can seek help without being on a long waiting list?
>
> Time is of the essence because of Donald's age, and something must be done soon or it will be too late. I am sure you are aware of the many things that can happen to a child who grows up in our society, who is left out, cannot read, make decisions, or becomes a burden to society in later years. Educators, parents, specialists, must work together with these kind of children to prepare them for tomorrow. We, as his parents, rely on your help and knowledge.

DISTRICT OF COLUMBIA EXPERIENCE

This, by the way, was from a mother who was herself a high school dropout. She illustrates another of my theories, that there is a wisdom

of the poor; there is a wisdom of the parents of poor children that we have not begun to tap.

As parents they have no choice but to rely on the school staff for help and expert knowledge. The schools must be prepared to help answer their questions. Title I encourages schools to institute plans and enlist help specifically for such children as Donald. One exciting new use of Federal educational funds has been the training and use of para-professionals and aides. And I watched that in operation here in Washington, D.C.; parents from the community without even an elementary school education who were working in schools as aides because of the program that a very farsighted and innovative school principal set up in the particular community. This had done a tremendous amount, not just for the mother who was an aide, but for the children of the school and other parents of the community who could see themselves reflected in this new image of one of their neighbors.

This was one of them; this was somebody who had made it; who could talk with the establishment; who was a bridge between the school and the home. Since these aides come from the community being served, we are not only extending education but we are providing jobs and job training.

I would like to deal now with some of the consequences of race isolation which are very important consequences of our failure to educate.

RACIAL ISOLATION

The discussion of general categorical aid cannot be divorced from the realities of racial isolation in our public schools. Negro children suffer serious harm when their education takes place in racially segregated schools. The Coleman report and the report of the U.S. Commission on Civil Rights support my own perceptions in this field. Negro children who attend predominantly Negro schools do not achieve well, have lower aspirations, less confidence in their ability to influence their own futures, and are less likely to participate later in the mainstream of American life. As a former teacher of government, this is a most critical area in which we have not begun to assess the consequences. We are faced with them. We are surrounded with those consequences, but we have not begun to look at what it does when people feel that they are outside of the decisionmaking process. Our entire perception of democracy and the meaning of democracy is imperiled when a large proportion—as many as 30 percent of our population—feels that they have no influence over their fate; that their vote is meaningless in the situation in which they live.

Racial isolation in schools is also damaging to white children who grow up knowing almost nothing about persons different than themselves. They tend to place an exaggerated value on conformity, are frequently prejudiced and conspicuously self-centered. This comes from a recent study published by Dr. Mial of the Columbia University Teachers College. Again, they support my own perceptions, after working with both suburban white children and with inner-city ghetto children.

DIFFICULTY UNDER STATE ADMINISTRATION

To give control of large Federal grants to the very State educational authorities under whom racial isolation and unequal education have

developed would be to use our funds in ways which will do little to promote change. Even where State agencies would like to use the funds to promote desegregation and improve schools, the political situation in which they operate may make such action impossible. Federal aid should be used to complement State and local efforts by encouraging and enabling them to do what our national policy requires.

It is no secret, since the NEA convention was open, that I fought along with a handful of educators at the most recent NEA convention to which I was a delegate, to prevent the adoption of the general aid platform by the NEA. One of the statements by one of our State education association executive secretaries was that his own State superintendent of education would find it impossible to administer funds in such a way as to do any good if general aid became the formula rather than categorical aid. In this Southern State, said the executive secretary, the State education superintendent—bowing to the political realities in the State—would have to provide funds in those areas where they are needed least.

Today, we have suddenly become very conscious that American education is not adequate. Not only are we obviously failing to meet the needs of poor children and of the emotionally or physically handicapped, but we are also failing increasingly with middle-class, so-called average children. One has only to look carefully at the composition of the Dupont Circle "hippies," at the Haight-Asbury "runaways," at the statistics on college dropouts and opt-outs and copouts; and at the growing incidence of nervous disorders among our middle-class youth to recognize that many of our young people are crying for help.

Fundamental educational change is still to come in this country. I suspect it will not come until we begin to train school administrators in modern managerial methods as well as in education. The study by sociologist Morris Janowitz of big city public school systems lists Washington, D.C., along with the majority of city school systems which are run by such primitive managerial methods that they literally are unable to change—to accept and incorporate successful innovations.

INNOVATION PROGRAMS NEEDED

In Sunday's New York Times report on the study of the New York City school system, and Baltimore and Philadelphia and Detroit and Chicago this is borne out. School systems ask for an innovative program. They try out an innovative program; then they drop it because they do not have the managerial know-how to incorporate this innovation into the total educational system, and I have seen the heartbreak of teachers who became caught up in a new experimental program, and realized the validity of the program, saw what it could do, then found that the program was just dropped at the end of the experimental year.

We still have to shake up the straightjacketed thinking of professional educators and our compartmentalized approach to educational problems. Education today demands the flexibility to utilize knowledge from any different disciplines as well as the active support of

business, labor, voluntary, and civic groups; and I took part in a program in Washington last year in which the support of all of these groups was forthcoming and is still readily forthcoming.

Without Government commitment to innovative programs in education and the means to convert innovation into fundamental change, we can only look forward to the spread of the societal cancer which is now growing in our big cities.

It is the responsibility of the Federal Government to plan, supervise, and appropriate funds for the most farsighted and far-reaching plans it can develop. And the funds which some might try to hold back for reasons of economy will be paid 10 times over in welfare, in crime prevention, in court costs, in health centers, and in all the social ills which result from wasted lives.

In conclusion—and this committee has been most forbearing—I would like to say on behalf of the league that we support the continuance of categorical Federal aid to States as set forth in the Elementary and Secondary Education Amendments of 1967, and the Elementary

VOCATIONAL EDUCATION

and Secondary Amendments and Act of 1965.

In particular, we support amendments to the Vocational Education Act of 1963 which would provide funds for innovative programs in vocational education to enable students to receive training for a labor market which has declining opportunities for the unskilled. As I outlined above, there is a great need to involve labor, business, and civic groups in evolving educational and vocational programs which will be meaningful both to the young person and to the community. In some communities, notably Washington, D.C., local businesses have shown an eagerness to involve themselves in developing vocational education programs as well as in alleviating unemployment. Hopefully this amendment will assist in developing programs which will produce such involvement.

TITLE V COMMENT

We also support the amendment to title V of the Elementary and Secondary Education Act which provides grants to the States for the purpose of comprehensive planning and evaluation and hope that as part of this program, States would be able to use a portion of their funds to provide advisers, if requested, to assist local school systems in drawing up plans to request Federal funds for local programs.

Senator MORSE. Mrs. Steffens, this is an excellent statement. It is very helpful to this committee.

I think our questions which we might ask are pretty well answered not only in connection with your testimony, but others we have had, so in the interest of time, I am not going to ask any questions.

I want to say to all of the witnesses that appear today that the record will be kept open for 10 days for receiving any supplemental statements that any of you wish to make over and above what you make today and if you followed these proceedings, Mrs. Steffens, and have anything more that you would like to file with the committee, please do it and I will have it printed in the final record following the statement that you made this morning.

Thank you very much.

Mrs. STEFFENS. Thank you, sir.

Senator MORSE. Because of the time schedule that the chairman cannot do anything about, I necessarily am going to have to limit all additional witnesses to 10 minutes.

I suggest probably it would be best for you to file your statements and summarize them but I leave that entirely up to you.

You may wish to read part of them and file the full statement.

Our next witness will be Mrs. William Wood, national director of the League of Women Voters.

Once again, as I said in the past, Mrs. Wood, I want this record to show the appreciation of this committee for the various reports the League of Women Voters has filed with us from time to time over the years in connection with the work of this subcommittee as well as the testimony of your witnesses. I have justifiably commended the League of Women Voters over the years for the research that you do on legislative issues; the very careful work that is represented by your report; and I want you to know that you have my thanks on behalf of the subcommittee.

You may now proceed for 10 minutes in your own way.

STATEMENT OF MRS. WILLIAM H. WOOD, DIRECTOR, LEAGUE OF WOMEN VOTERS OF THE UNITED STATES

Mrs. WOOD. Thank you very much, Senator Morse.

Senator MORSE. Your full statement will be put in the record.

Mrs. WOOD. As a matter of fact, since the statement is so short, I am just going to read it because I think it covers all of the things we want to say.

Senator MORSE. Go right ahead.

Mrs. WOOD. I also have and appendix which I should like to supply for the record.

Senator MORSE. The material will be received in the record at the end of your statement.

Mrs. WOOD. Thank you.

I am Mrs. William H. Wood, a member of the national board of directors of the League of Women Voters in the United States. It is a great pleasure for me to appear before this committee today representing members of the League of Women Voters from all parts of the country. We appreciate the opportunity you have given us to speak to you about the Elementary and Secondary Education Amendments of 1967. There are just a few areas related to this legislation you are considering to which we will address ourselves.

For the last 3 years, in all 50 States, the District of Columbia, and Puerto Rico, leagues have been examining the basic issue of equality of opportunity for education in the United States. After looking both at the national scene and at the situation in their own communities, league members in the spring of 1966 agreed on a strong position in favor of Federal funding of compensatory programs for disadvantaged children from the preschool level through secondary education

We believe that the serious handicaps faced by many children already in school mean that the highest priority should be given to the

categorical assistance which has been directly available to school systems under title 1 of the Elementary and Secondary Education Act. Our leagues have reported that new awareness has developed in local school districts of the special problems of poor pupils, and local school officials are eager to move ahead by providing remedial and enrichment programs. We strongly urge a continuance of Federal funds specifically designed for such purposes. Education of this kind is often more expensive than individual school systems can afford. In order to redress the serious national problem of inequality in the education provided to poor children in this country compensatory programs should be gauranteed Federal support. They should not have to compete with other projects for funds from block grants to the States.

We also urge the extension of the Elementary and Secondary Education Act through fiscal year 1969. Early extension will make possible better and more meaningful planning by State and local school systems, since it will remove any doubts that might develop next spring over the continuation of ESEA programs through the 1968–69 academic year.

Finally, we do not wish the present policy of withholding Federal funds for noncompliance with title VI of the Civil Rights Act of 1964 to be weakened in any way. We feel the guidelines developed by the Department of Health, Education, and Welfare are fair, and their application should not be hampered by restrictive amendments which go beyond the limitations set by the Congress last year. We support integration of the public schools and believe these guidelines are an effective way of helping schools move toward this goal. We, therefore, urge you to reject any proposed amendment to the act which would prevent the Department of Health, Education, and Welfare from vigorously carrying out the mandate laid down by Congress when it passed title VI. The Fountain amendment to H.R. 7819 preventing the temporary deferral of funds for new programs seems to us to have just such an effect. We hope this committee, the Senate as a whole, and the conference committee will strongly oppose this move to water down the landmark Civil Rights Act of 1964. Thank you.

Senator MORSE. Thank you, Mrs. Wood. Your testimony, I am satisfied, will bear great weight in our executive sessions. Thank you.

(The appendix follows:)

APPENDIX.—SAMPLES OF RECENT COMMENTS FROM LOCAL LEAGUES ON PROGRAMS UNDER TITLE I OF THE ELEMENTARY AND SECONDARY EDUCATION ACT

From the League of Women Voters of Fresno, California

We are aware of the need for compensatory programs in Fresno County due to the large numbers of minority groups with deprived backgrounds. During the short year-and-a-half operation of various programs, significant progress has been demonstrated in many programs. Pre-school programs resulted in an increase of 15 to 18 points in testing scores. Significant gains were made in the special reading programs. It was possible to employ 139 teacher's aides in the Edison and Roosevelt schools. The student-teacher ratio was reduced to nineteen to one with twelve additional teachers in English at Edison High School with good results.

From the League of Women Voters of San Francisco, California

San Francisco has had compensatory education since 1962, supported by local and state funds. However, only since ESEA funds became available has it been possible to provide the special educational opportunities that this city—like so

many other urban areas—desperately needs to cope with its changing population. During the past year, 500 children participated in the pre-kindergarten program set up in target areas, but it has been estimated that five times that number can be enrolled when funds are found.

Under a Comprehensive School Age Compensatory Program, certain schools receive "saturation" services, which include lowered class size, compensatory teachers, speech therapy, community teachers, social workers, after-school tutorial centers and cultural enrichment materials. Some students are bused to other neighborhoods, thus improving the racial balance of the receiving schools. However, the present allotment of compensatory teachers is inadequate to provide help for all the students who need it. The answer, again, lies in additional funds.

From the League of Women Voters of Greater Wilmington, Delaware

In the Wilmington area Title I has provided many needed services for the education of poor children, which would never have been possible with just local and state funds. The way in which funds were designated by the Act has insured that funds went into areas where the need was greatest and, at least here, local fund-raising ability inadequate.

From the League of Women Voters of Metropolitan Dade County, Florida

We here in Dade County are very proud of our mobile reading clinics and our special reading teachers who taught 13,000 children from disadvantaged areas of the county last year. We understand that these fine Title I programs resulted in as much as two years improvement in reading ability over a one year period for many of these youngsters. We are also pleased that 150 Junior High School teachers are being trained in Dade County to design proper curriculum sequences for disadvantaged children. We realize that special programs to be effective must continue over a span of years as recent follow-up studies of Headstart have demonstrated.

From the League of Women Voters of Georgia

The State of Georgia received under Title I grants totaling $37,494,891 for FY 1966 and $34,725,066 for FY 1967. The "frequency" compensatory education programs made possible under these grants in Georgia have included pre-school and remedial training, special classes for the handicapped, food, clothing and health services, in-service training for teachers of special groups and teachers' aides (clerical help, etc.). These programs have been—and will be—of great value to Georgia's children and have increased the average daily attendance in schools throughout the state.

From the League of Women Voters of Salina, Kansas

Many of our League members have been working as volunteers with Salina's Headstart program. Through this contact with children of low income families, they have become more aware of the need for programs which will correct the educational deprivation so apparent in these children. The Reading Readiness Rooms, Learning Resource Centers and Enrichment Programs in existence in Salina under Title I and Title II of the Elementary and Secondary Education Act are corrective measures so necessary to insure equal opportunity for all children.

From the League of Women Voters of Lexington, Kentucky

Both the Fayette County Schools and the Lexington City Schools have had programs funded by ESEA this past year. Perceptual motor readiness classes in Title I schools reached over one hundred (100) first graders. Remedial reading classes were held for grades one through twelve. This summer over four hundred county students with reading difficulties are receiving special classes in reading and mathematics. Since physical coordination seems to enter the reading difficulty syndrome, special types of physical exercises are being supervised for these students. School personnel and parents are noting progress. The self-image of the child is improving as his skills increase.

From the League of Women Voters of Worcester, Massachusetts

Under Title I of the ESEA, Worcester has several particularly effective projects. Twenty one of our schools have after school sessions for tutorial and enrichment programs for our economically deprived children in our "Target

Areas." Particularly, the Pilot Program on the Performing Arts as they relate to the school curriculum is very new and exciting.

From the League of Women Voters of Southfield, Michigan

In the Ferndale schools, where there is much poverty, the amount of equipment and the ingenious ways they were used to stimulate learning and prevent boredom were marvelous. Although there was a remedial reading program before, increased aid now permits the teacher to see each student every day, which was impossible before because of the large number of students needing help. The teachers are now able to work with one to five students at one time.

From the League of Women Voters of Poughkeepsie, New York

Title I funds have been used in a variety of projects by school districts in the Greater Poughkeepsie area, including improvement of reading skills, curriculum study and reorganization, addition of social work personnel, early identification of potential dropouts and special efforts to meet their needs. School administrators are enthusiastic about being able to add these needed programs. Poughkeepsie used Title I funds to provide an after school program for 850 elementary school children from October to April when it was suspended because of lack of federal funds. We believe these compensatory programs are an essential counterpart to school integration in the move toward greater equality of opportunity.

From the League of Women Voters of Middletown, Ohio

We have a pre-school program of eight elementary schools with a total of 253 children enrolled. It was felt last year that this program had been successful in helping to orient the pupils to kindergarten and in increasing their attention span.

In grades three through six we have a remedial reading and math program with over 500 pupils in it.

On the junior high level we have two language arts programs with a total enrollment of 218 pupils. After similar programs last summer, according to national tests, significant progress had been made.

Administrators felt that all these programs for the disadvantaged children in Middletown had been helpful, successful, and well worth continuing.

From the League of Women Voters of Murfreesboro, Tennessee

In Rutherford County, strides are being made toward the achievement of quality education for many disadvantaged children under Title I of the Elementary and Secondary Education Act. As an example, we have a summer program operating in the McFadden area benefiting 180 children. The fact that this area has a population of 3,275 with 60% of its residents earning less than $3,000 a year, bears witness to the need for a federal program of this type to help children whose efforts to learn have been hampered by poor health and hunger.

From the League of Women Voters of Bellevue, Washington

The Bellevue School District with a grant of $58,000 under Title I has initiated a summer reading program which trains elementary teachers in reading techniques and methods. It has proven beneficial to teachers and students alike. The District hopes to expand this successful reading program to the secondary level in the future.

The Lake Washington School District is pleased with the results of an individualized reading program which has enabled the District under a $60,000 Title I grant to hire specially trained teachers to help poor readers on an individual basis. Spokesmen for both school districts feel the programs have proven highly successful and would be impossible to maintain or expand without federal help.

Senator MORSE. The next witness will be an old friend of the committee, Mr. Clarence Mitchell, director of the National Association for the Advancement of Colored People. We are delighted to have you again, Mr. Mitchell. Your full statement will be inserted in the record at this point, and you may handle it in any way you choose.

(The prepared statement of Mr. Mitchell follows:)

PREPARED STATEMENT OF CLARENCE MITCHELL, DIRECTOR, WASHINGTON BUREAU OF THE NATIONAL ASSOCIATION FOR THE ADVANCEMENT OF COLORED PEOPLE

Mr. Chairman and members of the subcommittee, I am Clarence Mitchell, director of the Washington Bureau of the National Association for the Advance-

ment of Colored People. Thank you very much for this opportunity to present testimony on the bills you are considering (S. 1125 and H.R. 7819).

Fortunately, I am in the position of presenting brief testimony because the overall position of our organization on assistance for education is similar to that set forth in the statement on educational funding submitted by you, Mr. Chairman. At this point I would like to go on the record as expressing appreciation to President Johnson for his leadership in seeking federal support for education.

I would also like to offer a warm and sincere word of appreciation to you, Senator Morse, for your long and devoted work on so many important national problems. One could name many of your contributions, but at this time the specific reference is to education and civil rights. Your support for increased authorization of funds to aid the "identified poor children" is vitally important. We hope that Congress will follow your leadership on this and other improvements that you are seeking.

Because the members of both parties on this subcommittee are friends of education, I shall not take time to discuss the merits of the bills before you. Instead, I wish to comment on two House amendments to H.R. 7819.

The first amendment is that offered by Representative L. H. Fountain (D.-N.C.). The Fountain amendment prohibits the federal government from withholding funds for new programs for school districts on grounds of non-compliance with Title VI of the 1964 Civil Rights Act until there has been a hearing and an official finding that the school district is practicing racial discrimination. As members of this subcommittee know, we faced this same problem in 1966. Under a compromise agreement between the House and Senate funds could be deferred up to ninety days while determinations could be made on compliance with the requirements of Title VI of the 1964 Civil Rights Act.

The Fountain amendment is another attempt to whittle away the value of Title VI. It foreshadows a return to the days when friends of federal aid to education were divided on the issue of whether such monies should be spent without regard to whether the school districts receiving assistance were in compliance with the 1954 School desegregation decision of the U.S. Supreme Court.

We had a fair fight in Congress on this principle in 1964. Democrats and Republicans in the House and Senate gave substantial support to Title VI. Its passage gave hope to those who believe in orderly change under just law. Now we are at a time of trial for the whole country. Strident voices are being raised against reliance upon the law. Fortunately, these voices are not numerous, but they are being heard and in some instances they fall upon receptive ears. The Fountain amendment is the kind of fuel that feeds the flames of discord. It is an invitation to rely upon rule of force rather than upon the rule of law.

As you know, Mr. Chairman, the organization that I have the honor to represent here today relies upon the United States Constitution to achieve progress. We have profound and unwavering faith in the use of Constitutional methods to achieve the goals of first class citizens for all Americans. Yet, it is things like the Fountain amendment that make our job harder and spread needless bitterness among those who have been so long deprived of their rights. We urge that you repudiate the Fountain amendment and rely upon the language which was agreed upon in 1966.

The second amendment is that of Representative Edith Green (D.–Ore.) which provides that funds for supplementary education centers under Title III of H.R. 7819 are to be given to state education departments for distribtuion under a state plan.

If all state education departments had been doing their job for all of the children, one could not object to the Green amendment. The record of how they have not been doing their job is long and depressing. Eighth grade children from inner city schools who have a second grade reading level is one example of how state education officials have failed to do their job. If allowed to stand, the Green amendment will nullify the fine words and bright promises that the federal government offers to the citizens who live daily in the midst of inarticulate frustration. The Green amendment says that once again they will be consigned to the indifference and the deprivation that is characteristic of many state departments. We urge that the Green amendment be removed from the bill.

Mr. Chairman and members of the sub-committee we still have a long way to go before we can meet the educational needs of the children of our country.

That way is even longer and harder for minority group children. Increasingly, the schools of our major cities are becoming the schools of racial minorities and, theerfore the schools in which teaching is below standard, in which curriculum is outmoded and where buildings are falling in decay.

We have found that federal standards raise the level of education for the poor and the deprived. We have found that federal interest is a spur to desegregation of the schools in the North as well as the South. It is our belief that much of the attack that is made on U.S. Office of Education on the subject of desegregation guidelines comes because there is now an unwholesome alliance between advocates of racial segregation who still want to defy the U.S. Supreme Court decisions and those in the North who are unwilling to face the fact that de facto segregation is an evil which must be eradicated.

It is incredible that thirteen years after the 1954 school decision we are still wrestling with the problem of racial segregation in the public schools. The President has given enlightened and courageous leadership in this field. On the record, the Congress has often failed to match the President's high purposes. There is still too much sharp shooting at officials of the U.S. Office of Education who are trying to implement court decisions and who are trying to uphold the 1964 Civil Rights Act. Let no one be deceived. The people of this country have learned to look behind the facade of legalisms and high sounding phrases about local control. When they look behind these things they see the same old foot dragging and the same old short sighted policies that have crippled the children of the poor and minority groups for generations. The time has come for boldness and imagination in meeting the education needs of our day. We must not pour the wealth of the federal treasury into leaky containers in the hands of the prejudiced, the indifferent and the scofflaws.

STATEMENT OF CLARENCE MITCHELL, DIRECTOR, WASHINGTON BUREAU, NATIONAL ASSOCIATION FOR THE ADVANCEMENT OF COLORED PEOPLE

Mr. MITCHELL. Thank you, Mr. Chairman. I will accept your suggestion and summarize my statement, because when I am before you I feel that I am talking with an honored and very valuable friend, not only of me as a person but of human rights and good causes in general.

In my statement I have said that we want to offer you a word of commendation for that very wonderful statement that you put before the committee at the beginning of these hearings. I think your sights of higher figures for allocations are the kind of sights that we need to have these days with respect to the great programs like the program of education and all the matters which are treated under it.

Senator MORSE. You are very kind, Mr. Mitchell. I want to say, however, that I accept your comments in behalf of the committee, because I think you are going to find that a substantial majority of this committee is going to share the point of view that you now express.

Mr. MITCHELL. As I have said in my statement, I feel we are before a friendly committee, and therefore I am not going to try to go into the details, because we subscribe to the matters that you set forth in your statement. I too am hopeful that the committee will subscribe to them. I think it will.

I want to say a word of commendation for the President, too, Mr. Chairman, because it is very sad these days that the President of the United States, who has given the most profound and wonderful leadership in the area of civil rights and related matters, sometimes comes under attack by irresponsible people who are the beneficiaries of some of these programs. It is my impression that we would not have been

able to make the headway that we have been able to make in getting Federal aid to education, if the President had not been assuming the leadership that he has.

Senator MORSE. I associate myself with your commendation of the President in this field. As the manager of the education legislation, I can testify as your witness. It has been made clear to me time and time again whenever it becomes the duty of this committee to bring forth our education recommendations that we think will best implement the policies for which he stands, not only in the field of education, but in the field of civil rights.

It does not mean that he necessarily will agree with every recommendation that we make. But there is no question about the comity of objectives existing between the President and the chairman of this subcommittee. To date there has been, and I hope and think it will continue, a substantial majority on this committee who supports those objectives.

Mr. MITCHELL. And I want to say, Mr. Chairman, I just wish that some of the people who were attacking the Teacher Corps over in the other body could have read your statement. It is my purpose to go on record here as saying that our organization has great respect for the Teacher Corps. We think that it is a valuable part of this bill.

We share your belief that it is making a great contribution. We think that you, in the material that you set forth in your statement, have made your typical lawyerlike unanswerable case in favor of the Teacher Corps, with the documentation that you have included. We associate ourselves with the things that you have set forth in that document.

Senator MORSE. Let me say on that I think it was a very sad day when we lost our amendment in the Senate by a vote of 45 to 43 to increase the recommendation of the Senate for appropriations from $18 million in round numbers to what the President wanted, $33 million.

When we take out the administrative cost, it meant that the figure that we are asking for would have doubled the number of Teacher Corps aides that would have been available in its very next fiscal year. As I said in my argument on the floor, here is an injection of help right into the poverty schools of the country so sorely needed.

I am very pleased that some of the members of the House committee, who have been kind enough to call me since that debate have said, "we are sorry you didn't get the $33 million. We were in the position over here, not having had an authorization bill, that we couldn't put anything in the appropriation bill without the authorization bill, and we are going to do what we can to see if we can hold to the Senate figure."

I hope their optimism is warranted. I hope there will be no compromise with that figure in conference with the House.

This record should show, as I have said elsewhere, that in due course of time this chairman is going to support requests for a supplementary appropriation, to see if later on when the money is about to be exhausted, we can't get it supplemented by an additional amount.

FOUNTAIN AMENDMENT

Mr. MITCHELL. There are just two matters that I would like to stress here, Mr. Chairman. The first is the so-called Fountain amendment, which was added to the House bill by Congressman Fountain, of North

Carolina, and the second is the amendment to title III, which was offered by Mrs. Green of Oregon and was approved by the House. With respect to the Fountain amendment, I would characterize that as a kind of legislative blackmail on an executive agency of the Government of the United States.

We had a fair fight back in 1964 which you helped to lead, and we honorably won the principle that where Federal money is spent, it is not supposed to be spent in a discriminatory manner. We didn't win grudgingly. Congress gave us overwhelming support. We had liberals who were for that principle and conservatives who were for it as well.

Now there is a kind of a back door attempt to sneak in and whittle away the value of this principle. The Fountain amendment is an example of that.

Last year, as you know, Mr. Chairman, we were confronted with that. It is the opinion of those who want to see the schools move ahead, and at the same time have compliance with the Supreme Court decision in desegregation, that you and other farsighted persons who participated in the conference on this bill arrived at an agreement between the parties which is a workable agreement on the principle of what Congressman Fountain says he is trying to achieve. He says he is trying to achieve a system under which the Federal funds will flow without any impediment into the States.

We are for that too, but we certainly don't want any kind of arrangement where they get the money, spend it in a discriminatory manner, and then we go back to have some discussion about whether they did or didn't when it is too late to give a remedy.

The 90-day provision, which is a part of the present law, during which there can be a fair review of the plans of the district to which the money is being sent, seems to me just and workable. We found, however, that the proponent of the amendment wasn't satisfied with that this year. He insisted on going back to the posture under which you give the districts the money and have a kind of a postmortem to see whether they have spent it in the right way.

We honestly hope that you will give the same kind of determined leadership that you gave last year in getting this odious thing out of a bill, and getting back to the existing law, so that all people can be treated farily under this particular provision.

Senator MORSE. Mr. Mitchell, I want to make this very brief statement. The principle of the Fountain amendment as it was offered before, and was offered this time I continue to oppose. In behalf of my colleague over on the House side, Mrs. Green, may I say, I haven't the slightest question as to her motivation and her intent. I think she is seeking to work out certainly a solution to a very difficult problem that confronts them on the House side.

This subcommittee will proceed to hold full hearings in regard to all sections of the House bill, but I want to be your witness again by saying that I am sure that when we get our bill completed in the markup and through the Senate committee, that even before I present it on the floor of the Senate, I intend to confer with Mrs. Green and see what the areas of compromise, if any, are that we may accomplish. I am satisfied with her motivating objective, doing what she thinks is best to protect the principles that I agree with as far as having

legislation that will protect the youth of this country North and South from any form of discrimination because of race, color, or creed.

It may very well be that we are going to end up with a bill upon which both Mrs. Green and the Senator from Oregon will find themselves able completely to agree. To that end I will devote myself, as I am sure she will, too; therefore, I am not going to make prejudgment as to the final bill. But as to the objective of the Fountain amendment as the Congressman proposes it, I can see no difference between his objective now and his objective 2 years ago when we succeeded in getting it out in conference

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TITLE III

Mr. MITCHELL. Thank you. With respect to the Green amendment, that is treated in my testimony, which is her amendment to title III of the House bill, that as you know gives to the States, the State departments of education, the right to formulate the plans, and it is mandatory that the plans they formulate be accepted in fiscal 1969.

In 1968 it is not mandatory. But in any event, the problem that is presented by Mrs. Green's amendment is it gives to the State departments of education the right to make use of the moneys made available under the title without the Federal Government having any say as to whether this is going to be spent in a manner that would benefit some of the children who need it most.

I have the report of the Civil Rights Commission here on education, and on page 74 of the report which is titled "Racial Isolation in the Public Schools," volume I, the Commission, the Federal Civil Rights Commission, pointed out that in Atlanta in 1965, in the Negro schools the median grade equivalent of the eighth grade in reading achievement was 3.9. In predominantly white schools it was 8.7, almost five grades higher than the reading level of the Negro.

This could be duplicated all around this country, Mr. Chairman. I am sorry to say it could be duplicated in many nothern schools, not just the southern schools. It stems from the fact that boards, State boards of education and superintendents of education, sometimes have a tendency to follow the old adage of "giving grease to the squeaking wheels." The poor people of this country, who unhappily include a great many members of minority groups, are very often in a state of inarticulate frustration. They cannot say what their needs are and what they would like to have done. Therefore their children are neglected.

We feel that in this country we must achieve the results that are necessary in a democracy through reliance on the Constitution and implementation of statutes passed pursuant to the provisions of the Constitution.

It is my opinion, and I believe it is the opinion of most of the people in the organization that I represent, that the great majority of people in this country want to do things that way, but when it is difficult to achieve under the law the remedies that are necessary for correcting some of these troubles that we have had in education, employment, and other areas, there are strident voices today that I do not need to identify, because they are so well known, who go off to the ghettos, to the

slums, and to the pockets of poverty in rural areas, saying that you can't have any faith in the law.

They say that the whole system is against you. And of course when they say things like that, they point to matters such as the Fountain amendment, to such as the Green amendment, which gives to the State school officials the right to handle these moneys without any Federal checking, and I am sorry to say that they have some people who listen to them, some people who agree with them. For all we know, there may be some people who act in a manner that is destructive and unlawful, because there has been this kind of poison injected into the thinking of the American people.

I don't know how we can go out into the streets when there is turmoil, brick throwing, Molotov cocktail throwing, firemen being shot at, and things of that sort, and stop what is happening. But I think we can prevent it by giving hope to the people who are disadvantaged.

This whole program is one of the means of giving people hope. It is our earnest wish, Mr. Chairman, that when this broad, wonderful temple is built, and we invite all the people of this country to enter, that the poor and the minority groups will not find that there is a special little side door they have got to go through marked "Fountain amendment" or some other kind of amendment, which changes the purpose of the act as it applies to them, but not as it applies to the general population.

Senator MORSE. I am glad that you raise this point this morning. I commented on it very briefly yesterday, and I shall very briefly now, but I think it calls for some comment from the Chair.

We have listened to Mrs. Steffens and Mrs. Wood this morning present statements that have some bearing on the basic problems involved. Of course it has always been the chairman's position, as I have been the manager of education bills through the Senate for some years now, that it is not the objective or the purpose of our Federal-aid-to-education legislation to substitute the Federal Government for the States and local school districts in determining the local educational policy, to say that except when a constitutional matter becomes involved.

Whenever you find a State policy resulting in the expenditure of Federal funds transgresses upon the basic constitutional rights, then the Federal Government has the duty not only to intervene but in the first instance to retain some control. Unless you understand that constitutional concept of the chairman, you can't begin to understand the distinction that I draw.

As you know, time and time again I have discussed it ad infinitum on the floor of the Senate, as I have sought to meet the challenge that comes up in debate concerning alleged Federal intervention in the determination of State educational policy.

Constitutional issues can take a variety of forms. At the end of this hearing, the last witnesses that will be called in this hearing will be the Commissioner of Education, Mr. Howe. He has already received notice that we will expect to come up and give us a summary rebuttal to the testimony that has already been introduced in the record concerning any criticism of the policies of the Department of Health, Education, and Welfare. It is only fair that we do that. This is the

administration-proposed legislation that the Department represents, and the administration is entitled to final rejoinder.

When he is up here, he will be examined and will be expected to make perfectly clear to us just exactly how the Department intends to comply with and stay within the framework of exercising only those restrictions that the Federal Government is entitled to exercise within this constitutional theory that I have mentioned and, speaking hypothetically, you used the land of Georgia example. Certainly there has to be some protection to the taxpayers across the country, that the funds do not go into any State, North or South, with no restrictions placed upon them at all as to their expenditure, if in fact their expenditure does not provide equal educational opportunity, if their expenditure in fact violates in result the guarantee of the 14th amendment, for example.

CONTROL OF TITLE III MONEY

Therefore I suggested yesterday, in view of the fact that the Department has assured this committee that it intends to move as rapidly as possible to turn all control under title III over to the States along the same administrative policies as it does in connection with titles I and II, as soon as it can be satisfied that the money will be spent in a manner that will not violate the Federal interests of equal educational opportunity being provided all students irrespective of whatever classification under which you may wish to catalog it, but which deals, let's face it, primarily with the question as to whether or not there will be discrimination because of their color.

So I suggested yesterday that with no commitment, and I made no commitment this morning, we had better pursue the area of possible adjustment of differences in order to get on with legislation that will be, we hope, acceptable to both Houses, and to the White House, an area of compromise.

If the Department can make its case stick that there are some State departments of education which for one reason or another they do not feel are ready to administer all aspects of title III because of some of the very constitutional implications that I have raised, that we retain some selective veto power over State plans.

I pointed out yesterday that we have had superintendents from our big cities who have made a record before us in opposition to a blanket grant of authority to all State departments on the ground that experience has been that there seems to be some lack of understanding, shall I say—although they talk about bias—some lack of understanding on the part of some State departments toward these special problems of the urban areas, the big city areas, the ghetto areas. You will find in the record some of them have pointed out that in some cases they feel there is a rural domination of State boards of education that lack an understanding of ghetto problems.

Now it does not follow that the States are entitled to Federal tax money to spend any way they want to spend it, if in the spending of it it is found that they are violating what I think is a very basic constitutional right of the parents as well as the boys and girls of this country to try to have an educational opportunity provided as far as Federal funds are concerned, without discrimination, without inequality, entitled to it on an equal basis.

I think it might very well be that it is going to be in this area of potential compromise that we will seek to give that maximum of State administrative authority, consonant with protecting the boys and girls in each State north and south from a policy that would result, if not protected in the expenditure of Federal tax dollars, not to give them equality of opportunity, but inequality of opportunity.

STATES RIGHTS

One of the difficulties here, Mr. Mitchell, is that we are dealing with a great abstract principle of government. It is very difficult for a good many of our citizens to fully comprehend the importance of such an abstract principle of government to their Federal rights. Don't forget there is a lot of talk about States rights but very little talk about Federal rights, and of course there are no States rights, this is not recognized by many, there are no States rights when you are dealing with legislation in this limited area.

If a proposal violates a constitutional right, then the Constitution has to prevail. That is why I have been heard to say on the floor of the Senate, when some of my esteemed colleagues have argued against a bill that it is violating States rights, how moving those speeches can be. I sometimes find though that the most moving speeches are not always those with the greatest of content.

And so, when I listen to some of those moving speeches on States rights, I am known a good many times to, in the most friendly fashion, ask my distinguished colleague who is making the argument if he is about ready to tell us now what is unconstitutional about the bill, because if he can't show us that something is unconstitutional about the bill, then no States rights are involved.

For any bill that Congress proposes that is constitutional can violate States rights. Now the argument may be we think as a matter of public policy for our State it is bad legislation or undesirable legislation, but that is a horse of a different color. It has got nothing to do with States rights at all.

As the chairman of this subcommittee has analyzed the differences that are developing in this hearing, over how far we can go under title III, may I say I am ready to go just as far as we can go, provided there is no delegating away on the part of the Congress of its control over the expenditure of Federal dollars in relationship to the Federal rights of the boys and girls in this country in every Southern State, in every Northern State, in every Eastern, Western, and Midwestern State. That is a great constitutional issue that I think is involved.

I did not mean to take that long, but if I didn't, there would be comment because I didn't. You are responsible for that little speech, Mr. Mitchell, and you want to understand my point of view, or analyze it very carefully, because that is exactly where I stand.

Mr. MITCHELL. Mr. Chairman, I will close with these two brief observations. First I have had the good fortune to listen to you many, many times. I have had the privilege of saying in your State, about 10 or 15 years ago I guess it was, that I can't think of any constitutional principle that you have enunciated that I would disagree with. I repeat that now.

I think that you have put your finger on a really important problem here, and that is there are many people who would accept Federal funds, but they don't want to follow the correct constitutional interpretation of how those funds should be spent as you have outlined it. This is all we ask for. We just ask that when this money goes in here, that Congress do its duty, the executive branch of Government do its duty to see that the money is spent fairly.

The second point I would close with is the U.S. Office of Education, to my knowledge, was never under attack prior to the time it began doing something about implementing the 1954 school decision as it is empowered to do under the law.

Now it is being pilloried, crucified, attacked and ridiculed, because it is doing what the Supreme Court and the Congress and the conscience of the American people indicate altogether things that should be done. I would say that one of the unhappy developments of these times is that the advocates of segregation have formed a coalition with some of the people in communities who have de facto segregation and want to hold onto it.

They are in what is almost—I started to say unholy, but I will soften it to say an unwholesome alliance, which is taking the form of setting up strawmen of various kinds in the U.S. Office of Education, making personal attacks on the Commissioners of Education. I want to say that I think the Commissioners of Education, who have been trying to do this job, have tried to do it in an honorable way. I haven't always agreed with all they have done, but I don't think that they are being treated fairly.

I have this comforting thought. I know that when they are in this court and before the judge who is sitting here today, they will get a fair hearing, and I hope that this will clear away some of this troublesome atmosphere that has been generated by the coalition of the de jure segregation advocates and the de facto segregation advocates.

SELECTIVE VETO

Senator MORSE. I am very glad to have had your testimony, Mr. Mitchell, and the opportunity of this colloquy with you. As I sought to point out a moment ago, we had better look at what is called the selective veto, that is where the Department gives its approval and proceeds to implement a State plan with certain exceptions, and then you send that back for further clarification or modification. I do not speak for anyone on the House committee, including my distinguished and capable colleague, Mrs. Green, but I have read the debates and I am entitled to make my interpretation.

My interpretation is that she seeks to see to it that the civil rights guarantees are carried out. She takes the position that it must be uniform across the Nation, and that it is as important to be carried out in the North as it is in the South, and that one of the amendments about which there has been so much discussion, I think much of that discussion as I interpret it, and again speaking for myself, not for her, completely misinterprets the motivation of the amendment.

She just wants to be certain that we deal with problems in the North, such as the de facto problem, that exactly the same policies are applied

to the North as they are applied anywhere else in the country. With that I don't see how anyone can take exception.

I was called up some time back to a northern city to confer and advise with a committee of the clergymen of that city who were very much concerned about what they called school district gerrymandering. They pointed out that they were re-bounding the school districts in the area. It was very interesting that the new lines would accomplish the purpose somewhat similar to political gerrymandering when they want to get somebody out of office, and they attacked it, these clergymen, as a form of de facto segregation.

They were completely right about it, and in my judgment the State plan that would permit that, in connection with title III or any other title of elementary and secondary school education, should be subject to some Federal right at denying them funds for that part of the program, because I don't see how you can reconcile it with the constitutional concepts that I outlined in some detail a few moments ago. I want to thank you very much for your very helpful testimony.

Mr. MITCHELL. Thank you, Mr. Chairman.

Senator MORSE. Our next witness is Miss Cora Paul Bomar, Division of Educational Media, State Department of Education, Raleigh, N.C., representing the American Library Association.

I think Miss Bomar knows that many of us on this committee have probably said in floor debate and elsewhere that in our judgment we wouldn't have passed the various pieces of legislation that have affected aid, that have resulted in aid to school libraries in this country, had it not been for the work of the American Library Association and its help to this committee.

I repeat it today. You have been helpful to us. I want you to proceed in your own way within the time limit that I am sorry I have to impose upon you. Mr. Mitchell was within his time limit. It was the chairman that violated his own rule.

Miss BOMAR. The first thing I would like to say, Chairman Morse, is thank you for that statement that you made about the American Library Association in the passage of title II of the Elementary and Secondary Education Act.

STATEMENT OF MISS CORA PAUL BOMAR, DIRECTOR, DIVISION OF EDUCATIONAL MEDIA, STATE DEPARTMENT OF EDUCATION, RALEIGH, N.C.

Miss BOMAR. My name is Cora Paul Bomar. I am past president of the American Association of School Librarians, a division of the American Library Association, and am a member of the ALA Council, the governing body of that organization. I am currently president of the Southeastern Library Association, a regional group of nine States. My present position is director of the Division of Educational Media, North Carolina State Department of Public Instruction. One of my responsibilities is the planning for and implementing of title II programs under the Elementary and Secondary Education Act of 1965.

On behalf of the American Library Association, a nonprofit, professional organization of over 35,000 librarians, and interested citizens devoted to the improvement and extension of libraries, I wish to testify on the Elementary and Secondary Education Amendments of 1967.

REPORT ON TITLE II ESEA

Information gathered by a special committee of the American Association of School Librarians indicates that funds provided under the ESEA have had great impact in the improvement of school library programs, especially on the elementary school level. However, as amendments are being considered, there are two problems which we would like to call to your attention. These problems were reported in the returns to the questionnaire which our committee sent to State and local school library supervisors. School officials implementing title II, which provides funds for library resources, textbooks, and other instructional materials, are concerned that the budget recommendation for fiscal year 1968 is only $105 million instead of the full authorization of $150 million. Even this full amount is inadequate in remedying the school library situation which has been called a "national disgrace" by former Commissioner of Education Keppel. We hope that your committee will make clear that the amounts authorized are actually minimum amounts needed at once and not goals for the future.

In the matter of appropriations we hope that consideration will be given to problems which arise as a result of funds being made available to the schools so late in the year. We urge that you approve the extension of the Elementary and Secondary Education Act for at least 3 years, preferably 5 years, with authorization specified. This will fecilitate sound planning on State and local levels for the acquisition of library books and instructional materials and for making these mamaterials available promptly to the students and teachers who so desperately need them.

STAFFING NEEDS

In the operation of programs under the ESEA some very acute problems result from the inadequacy of school library staffs. It is increasingly difficult to maintain former levels of service to students and teachers while the local school librarians are also selecting, ordering, and processing the additional materials purchased with title II funds. A strong staff is needed to administer this important expanded program efficiently and promptly. Unfortunately, many school districts do not have a school library supervisor or even one trained school librarian. Most large city school systems lack sufficient staff. Under present allotments the allowable 2 percent for local administration cannot provide for necessary administrative staff. We urge, therefore, that serious consideration be given to increasing the allowable percentage for administration at the local level with a corresponding increason in the authorization for this title.

With the exception of the above difficulties no other major problems were reported by State and local supervisors as related to title II. The bulk of the questionnaire returns emphasized the great benefits to the pupils and teachers being provided under the act.

The delivery of orders for books and other materials has improved as the program moves into its second year. Assistance has been given to State and local systems in the selection of materials. For example, the American Association of School Librarians prepared and published a pamphlet, "Selecting Materials for School Libraries: Guide-

lines for Quality Collections." Free distribution of some 175,000 copies was made through State departments of education to schools over the Nation. A second edition of this helpful selection aid will be ready for distribution in August 1967. Librarians and teachers choose materials in terms of local school needs. Materials for the advanced student, the disadvantaged, the slow learner, improved reference collections, and special subject areas were some of the specific needs that are being met.

Cooperative and imaginative arrangements helped in implementing title II. Eligible schools were able to employ library clerks with title I ESEA funds, thus using the two titles to support each other. In other school systems local funds were used to employ personnel and to improve facilities, showing how Federal aid can encourage greater local effort. In many places title III NDEA funds were used to purchase necessary equipment and title II ESEA funds were used to purchase instructional materials to use with the equipment.

BAI SCHOOL LIBRARY AID

Several programs which have been more recently established under ESEA give evidence of special benefits to very needy groups. One is the plan established by the Bureau of Indian Affairs for using the fiscal 1967 allotment of $125,161 to improve the library resources for the 49,794 Indian children in the eligible schools administered by the Bureau. These children are those of the Indian population who are culturally different, economically and educationally deprived, and geographically isolated. Substandard social and economic conditions are fairly uniform within this group. The average parent did not go far in school and many recreational activities are conducted wholly by the school. Library materials will be most useful in improving these existing conditions. It is gratifying that S. 1125 provides continuation of the benefits of the act to these Indian children as well as to children in overseas dependent schools operated by the Department of Defense. We favor extension of the program through fiscal 1969.

EDUCATIONAL IMPROVEMENT

An example of the value of the school library program in achieving educational improvement is shown by the Rough Rock demonstration school project on the Navajo Reservation in Arizona.

The second program which is just getting underway, but which will serve a special group, is the one for migratory children of migratory agricultural workers. A special planning conference, which was financed under title V, ESEA, brought together representatives from 13 States—Delaware, Florida, Arizona, California, Oregon, Washington, Michigan, New Jersey, New York, Pennsylvania, Virginia, North Carolina, and Georgia—in which the education of migrant children is a problem. In this meeting special attention was focused on the types of education programs and specific plans were initiated.

As an example of what is being done, North Carolina has summer programs in 10 school administrative units where migrant camps are located. In each project transportation is being provided for children

from preschool through 11 years of age to school facilities where they are bathed, given a change of clothing, fed breakfast, lunch, and an afternoon snack. Instruction includes health and hygiene along with basic education skills such as reading and language arts, writing, and computation. Enrichment reading activities are arranged through the library program; and also there are social and cultural enrichment activities through crafts, art, music, and field trips. The foregoing description points up the possibilities for improving the educational opportunities of an often neglected group, children of migratory agricultural workers, through careful use of Federal funds.

HANDICAPPED CHILDREN

Among the most tragically neglected of our disadvantaged are the physically handicapped who often fail to realize their potential and glean the satisfactions life can offer them. What happened when one group of children was exposed to a school library program for the first time is described in an informative article in the Library Journal for September 15, 1966, which showed conclusively that a school library is indispensable to the academic progress of the student, and that its absence can stunt his progress.

(The article referred to follows:)

[From the Library Journal, Sept. 15, 1966]

A LIBRARY FOR THE HANDICAPPED

(By Ruth Vellman)

Physically disabled children have the same intellectual capacities as their able-bodied peers, yet only a quarter of the handicapped children in this country are able to attend school, and of this number, the physically disabled rank lowest. Only 15 percent of the handicapped able to attend can find high schools equipped to accommodate them; the rest are left to home study.[1] A recent report,[2] showing that the emotional adjustment of severely handicapped college graduates is virtually normal, and demonstrably better than that of disabled high school graduate, highlights the importance of schooling from a therapeutic as well as a practical viewpoint. The need is especially great for high school programs for the disabled which can offer constructive help in vocational fields, as well as college preparation, and teach the use of advanced reference materials.

Those of us in the library field are sure, moreover, that in addition to the group experience provided by school attendance, a school library is indispensable to the academic progress of the student, and that its absence can stunt the progress of children who must be educated at home. This is the story of what happened when one group of children formerly on home instruction was exposed to a school library program for the first time.

In the fall of 1962 Henry Viscardi Jr. initiated an experimental academic program for 20 physically handicapped children in grades one through eight. These children, of normal intelligence, were disabled with spina bifida, post-polio paralysis, osteogenisis imperfecta and other crippilng or special health conditions, and had been on home instruction in their own school districts. They came on crutches and stretchers and in wheelchairs, to the one-room school at the Human Resources Center, research and teaching arm of Abilities, Inc., a factory employing only the physically disabled. Many of these children had never been outside their homes before. The initial ungraded program included several field trips for the purpose of broadening their horizons. Most of them had no idea of what a library looked like. Because of meager instruction and

See footnotes on p. 2251.

lack of experience they had read little or nothing before coming to Human Resources School.

Though the school staff was small, consisting at first of one teacher and a nurse-assistant, those in contact with the children felt the great need to surround them with books. In late spring I joined the staff on a part-time basis to start buying the books which would form the nucleus of a school library. There were no special library quarters. Books were housed in the classroom and at one end of the small professional research library at the Human Resources Center.

My first meetings with the children were on an individual basis. Each morning before school started, informal discussions were held in the classroom book corner, as I tried to learn about individual interests and match suitable books with capabilities. One by one the children started to read. The 16-year-old boy who claimed he "didn't read books" was reached with *Silence over Dunkirk* by John Tunis, which took him six weeks to read. In a year and a half, he was reading *Catcher in the Rye*. The bright fifth grade girl, I.Q. 125, who had been taught at home all her life and who read on a second grade level, was motivated by a strong desire to read books that here friends told her about. Working determinedly with a dedicated remedial reading teacher, she was reading on grade level in four months.

LAUNCHING THE LESSONS

In September 1963, with about 600 books on hand and the help of the local public libraries, we launched an instructional library program. I found that library lessons were most effective on the junior high school level, where students had attained a measure of reading facility. The elementary children did benefit, however, from rudimentary instruction in the use of the card catalog and children's encyclopedias, and a field trip to the public library to see how the books were shelved. A weekly story hour for the primary group rounded out the initial program. All of the children were encouraged to find ways to use their own public libraries, even if it meant having someone in the family pick up the material for them. At first, I borrowed many books for the center from the public library in the town where I live. The entire student body joined the library staff that year and excitedly helped process the new books as the cartons arrived. Within six months, he held all library lessons in our own library.

At the end of the school term the children filled out an interest inventory. The results, confirming my own intuition, showed that these children were very much like their able-bodied peers. Television viewing ranged from six hours a week to six hours a day for the most handicapped, with the majority averaging two hours a day. Favorite radio programs included all the prominent disc jockeys and at least six of the girls collected Beatle cards. Leisure-time activities mentioned most frequently were reading, swimming (in the center's specially equipped pool), sewing, making models, painting, playing musical instruments, playing chess, listening to records and playing ball. Knowing the children personally lent special poignancy to some of their answers. The little girl who said her favorite activity was walking did her walking on two artificial legs, and the little boy who loved to play baseball could only swing along on crutches.

The book collection is being built essentially like that of any other school, with some minor variations. While the children's reading tastes range over the areas favored by most children, theer is a marked lack of interest in sports and animal stories. All but the best books about the handicapped, popular in most junior high schools, are rejected at Human Resources, as the children are quick to sense inaccuracies or insincerity. Biographies are the most believable, and books about such outstanding figures as Helen Keller and Franklin Roosevelt are popular. For the academically retarded, lists like Ruth Strang's *Gateways to Readable Books* [3] and Jean Roos' *Patterns in Reading* [4] have been available.

An expanded reference section is important for those students who cannot use their public libraries; reference books often go home over the weekend. A slightly greater ratio of fiction to nonfiction than in the average school enables us to supply much of the students' leisure reading material. For this purpose, too, there is a large stock of paperback books, inexpensive, light weight and easy to handle.

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We rely heavily on audiovisual materials to compensate partially for lack of social mobility. Our verticle files include studies done at the University of Connecticut on household activities for the handicapped homemaker, a complete survey of the physical facilities for handicapped students at all colleges in the country, and the important career information file. The standard school periodical collection for both students and staff is supplemented by magazines in the field of rehabilitation, and the professional book collection includes important works on physical rehabilitation and special education.

OFF THE DRAWING BOARDS

In summer 1963, preliminary blueprints had been drawn for a school building to adjoin the Human Resources complex, designed to suit the unique needs of a student body comprising up to 200 severly disabled children in kindergarten through 12th grade. The compact layout included three classroom areas, a science laboratory, music and art rooms, an auditorium, a domestic science room equipped to teach all activities of daily living and a library.

Here, besides the central reading room, important for group work, we planned several, easily accessible, specialized areas: a conference room, a television control room, small study rooms, a sculpture court with informal seating for reading outdoors, and a darkroom for individual work, and for processing and viewing audiovisuals. The special gymnasium, bowling alley, and swimming pool already part of the Center were close and accessible through the school building.

By early 1964, Mr. Viscardi had raised enough money to begin construction, and work on the foundation for the new school was begun under the watchful eyes of the kindergarten class, whose favorite reading that spring was *Mike Mulligan and His Steam Shovel.* In September 1965, in its fourth year of existence, the Human Resources School opened its doors to an expanded enrollment of 80. With 100 enrolled this September, students are now being admitted as rapidly as they can be processed. The original eighth graders comprised the first graduating class this June. Several of them carried a full academic program and plan to go on to college; others studied business subjects and will receive further vocational training.

Our new library, a pleasant, interior room at the heart of the school, contains 2000 volumes with room to expand eventually to 7000, and boasts a woodburning fireplace around which to tell stories. One picture window offers a view of the interior greenhouse maintained by the students as part of their science program. Walnut shelving, tightly woven carpeting suitable for wheelchair traffic, lounge furniture around the fireplace and a bright color scheme of blue, green, orange and gold, make the library the most attractive room in the building, and one in which the children enjoy working during school time, or relaxing during their lunch hour. In designing it we adhered to the primary objective of the Human Resources School: to demonstrate that disabled people do not need extensive adaptation of the normal environment in order to function successfully. The school's policy is to prepare its pupils to cope with real life situations, and in so doing to treat them as much as possible like normal children. Ground level entrances, widened halls and doorways and, in the library, bookshelves and a card catalog low enough to be reached by wheelchair students, are necessary exceptions. Only half the usual number of chairs are used at the tables and a spacious floor plan allows easy access for wheelchairs.[5]

Through new developments in micro-reproduction and electronic information retrieval, we are considering new, far-reaching possibilities. We already plan to install two-way television to transmit visual information from the library to instructional areas. We may also try an environmental carrel, wired for sound and vision.

There are many devices available to the disabled, and descriptions of this type of equipment can be obtained from the Institute of Physical Rehabilitation and Medicine in New York City, with which the school keeps close contact. The staff has found, however, that for the severely disabled it is often necessary to be inventive and imaginative in order to allow each child to function up to his physical and mental capacities. A specially designed reading rack, for example, was constructed in the Abilities, Inc. engineering department to fit over the wheelchair of one teenage girl confined to a half-reclining position.

The library program has remained flexible. Junior and senior high school

See footnotes on p. 2251.

students are taking a course in the use of library materials, given by the librarian as part of the English program. The elementary school, divided into those groups, visits the library weekly for simple library lessons and storytelling. In addition, all students use the library individually for research and often come before school, and during lunch hour and study periods to return and check out books.

The field of special education, I have found, is an exciting one in which to work, and makes special demands on the librarian. Librarians working with disabled children must have some technical knowledge of each child's physical condition and should be able to recognize significant psychological and social problems. The person who is able to establish warm individual relationships with the children is particularly valuable; however, he must also know when to seek professional help. Special education librarians must be able to interpret not only the usual educational records, but also reports from medical, psychological and other professional personel and be adept at recording their own observations to communicate to other staff members. Flexibility is essential in order to program library instruction in a multi-graded school program where absences for hospital visits are frequent, changes in the schedule rather likely, and requests for assistance constant and far-reaching. Recently a group of one girl's friends came to the library to report that she had fallen and ripped her stocking. The knowledge that these were special stockings to fit her artificial legs and that they were being worn with great pride for the first time in this young teenager's life, brought me to my feet with unusual alacrity to give the kind of help that I and other staff members are called upon for in a day.

The librarian must also become an expert on community resources and services available to the handicapped. A file of public and private agencies providing health, welfare, recreational and vocational services, a record of the national, state and local structure, the scope and responsibility of each, must be maintained in the library. Closely related is the ability to work with volunteer groups. Without the devoted help of these women, schools for handicapped children cannot function. The Human Resources School now has 50 volunteer faculty aides a week, working in four-hour shifts. They help the children with toileting, lunch and recreational activities; push wheelchairs between classes; take dictation or hold books for children with severe hand problems, and do office and library clerical work.

The librarian must also be able to command respect for the library in the total education and rehabilitation picture. But perhaps the most important personal requirement is a strong desire to work with disabled children and an eagerness to keep up to date on new developments in this relatively new area of special education. Above all, the librarian must display a high degree of empathy and ability to participate in interpersonal relationships without becoming emotionally involved. She must be prepared to help children who lead shortened lives to live them to the fullest, and to help those with severe physical disabilities develop their talents so that their future lives may be as active and productive as possible.

Our accomplishments to date with the children at Human Resources School have been exciting. Reading levels and achievement scores in all subject areas have been raised considerably and children who have read little or nothing in the past are being stimulated, through an active school library program, to read and enjoy a wide variety of books. The school library is playing a constructive role in preparing these young people to go on with their academic careers, as well as in broadening their environmental horizons through reading.

REFERENCES

[1] U.S. Department of Health, Education, and Welfare. *Statistics of Special Education for Exceptional Children and Youth, 1957–1958.* Office of Education, 1963.

[2] Mase, Carrel J. and Charles F. Williams. *The Assessment of College Experience of Severely Handicapped Individuals.* College of Health Related Services, J. Hillis Miller Health Center, University of Florida, 1962.

[3] Strang, Ruth, and others. *Gateways to Readable Books, an Annotated Graded List of Books in Many Fields for Adolescents Who Find Reading Difficult.* 3rd ed. Wilson, 1958.

[4] Roos, Jean. *Patterns in Reading: an Annotated Book List for Young People.* 2nd ed. pa. ALA, 1961.

[5] Other architectural adaptations, simple enough for any school or library to incorporate, are outlined in a kit prepared by the President's Committee on Employment of the Physically Handicapped and the National Society for Crippled Children and Adults, available for $1, 22 E. 40th Street, N.Y.C.

Miss BOMAR. The plight of the mentally handicapped child is even more severe. According to Eunice H. Speer, assistant professor of library science, Illinois State University:

> Our librarians feel that the physically handicapped get along rather well because they are rapidly integrated with normal students and can utilize the materials which normal children read. It is in the area of the mentally handicapped that we have a real problem. Mentally handicapped children want books which look like those used by other children in their chronological age group. Publication of special books to satisfy their needs and desires is not now being made.

TITLE VI AMENDMENTS

In light of the above, it is hoped that proposed amendments to title VI will encourage projects and publications of value to both physically handicapped and mentally disturbed children.

The American Library Association also supports the amendment to the Elementary and Secondary Education Act of 1965 which would provide assistance to local educational agencies establishing bilingual educational programs. Testimony on this proposal has been filed separately with the special Senate subcommittee appointed to consider the legislation.

STATE EXPERIENCE

Other specific examples of strengthening instructional materials collections and library services through use of title II funds provide dramatic evidence of the value of this important education legislation. For example, Jefferson County School District, in Colorado, developed an art and music reference library so that all county teachers would have access to materials which could not be duplicated economically in every school.

Interesting is Pennsylvania's use of title II funds to develop three materials examination centers, western (Pittsburgh), central (Harrisburg), and eastern (Upper Darby) each housing 20,000 titles plus all types of audiovisual and professional materials. From other funds staff has been provided for professional consultative service, such as evaluation, long-range planning, administrative organization and use of materials, planning of quarters, and staff utilization.

The New York State plan for use of a portion of their title II funds is another example of stimulating, outstanding and innovative projects to serve as model centers. Twenty-nine school systems were selected from more than 100 applications for funding. Each center established or expanded an existing materials center to include all types of media, planned in-service experience for teachers, and sought ways to coordinate services and materials with other Federal programs, such as NDEA, and ESEA, title I and III.

In southwestern North Dakota, an area of low density population, an instructional materials center was established to serve the children in nine counties. In addition to the center, a mobile unit was secured to facilitate inservice training and delivery of materials. The Fargo, N. Dak., schools received special allotments to provide instructional materials for the slow learners and for the blind and partially sighted.

These descriptions give some insight into the thrilling progress which is being made throughout the Nation in bringing greatly wanted and highly important school library resources to students and teachers and in the development of good school library service. Much of the stimulation is being provided through the Elementary and Secondary Education Act of 1965. As schools move into the third year of implementation of this act, even greater benefits will result. The many books, audiovisual materials, and services which the legislation makes possible, will undergird the total instructional program in thousands of classrooms in all parts of the United States.

Representing the American Library Association, I would like to express gratitude to this committee for its recognition of the importance of Federal legislation to improve education for American children and youth, and would urge approval of the Elementary and Secondary Education Amendments of 1967 and extensions of the act. I would like to thank the committee for the opportunity to make this statement, and to thank you personally, Senator Morse.

TRIBUTE TO GERMAINE KRETTEK

Senator MORSE. Miss Bomar, I want to thank you on behalf of the subcommittee for your testimony. While you are still on the witness stand, I want to participate in a matter of personal pleasure, which I am sure you will want to join me in. I note that Miss Krettek, associate executive director of the American Library Association, is in the room. I understand she has with her the new president of the association, and I would like to have you join with me in recognizing Miss Krettek, ask her to stand and introduce for the record the new president of the association.

Before you say a word, I want to say in my opening statement when I was speaking about the contributions that the American Library Association has made to this committee, the legislative battles we have had in recent years and getting into the legislation the need for the support for the libraries, that we owe you, Miss Krettek, a vote of thanks. You will recall that the first breakthrough in all the aid to education, the first year of the Kennedy administration, was President Kennedy's bill providing aid to libraries. In fact, there is great human drama connected with that, because, as you know, at the tragic moment of his assassination, your chairman was taking through the Senate at that very time the first of the bills on the education breakthrough.

I had conferred with the President 10 days before, in which he and I worked out the order of the bills that we would present to the Senate, and he agreed that we ought to start with the library bill.

I recommended that bill saying "You know, Mr. President, I don't see anyone as being against Federal aid to libraries except those who are just against all aid, all kinds to any phase of education."

I said, "You know, Mr. President, nothing breeds success like success. If we start with this one, I think we will win hands down, and that will help pave the way for greater success with our next bill."

I will never forget his chuckling about it. At the time he thought that was a pretty good argument, that that is the one we ought to start with, and that is the one we did start with.

It was the first of the aid bills connected with the great Kennedy education program that the Congress of the United States adopted as you will recall.

INTRODUCTION OF ROGER M'DONOUGH

So I want to present you this credit for the record and I would like to have you present the president-elect of the American Library Association.

Miss KRETTEK. Thank you, Senator Morse. It has always been a pleasure to work with you and your committee. We are facing two Senators now who have been sponsors of library legislation consistently. Thank you very much.

This is Mr. Roger McDonough, who is the State librarian of New Jersey and who is the new president-elect of the American Library Association.

Senator MORSE. Mr. McDonough, we are delighted to have you with us. I am sure that you take the same pride I have in Miss Bomar's testimony this morning.

Mr. MCDONOUGH. I do indeed, Senator, and I thank you for recognizing Miss Krettek and recognizing me, sir, as the administrator of one of the ESEA title II programs in the State of New Jersey. I can support everything Miss Bomar has said. It is working a small miracle in our school libraries in the State. Thank you very much.

Senator MORSE. Thank you very much.

Would you like to ask Miss Bomar any questions?

SCHOOLS NEEDING LIBRARIES

Senator YARBOROUGH. Yes. Miss Bomar, at the time we passed the first of these educational library acts a few years ago—for the last 5 years—we had a presentation here that showed that at that time 80 percent of the primary schools of America, the elementary schools of America, had no school librarian, 60 percent of them had no library. If your association could give us data, not immediately but could furnish that for the record, what percentage of the elementary schools of America now have school libraries and what percentage have librarians?

I know that this terrible figure of 60 percent with no school libraries, that that percentage has declined, and 80 percent with no librarians, of some 5 years ago, has declined. I think that libraries are the beginning of scholarship. I am glad that we have not only passed legislation for the building of school libraries, elementary school, secondary school, and college, but a few years ago we also amended the General Library Act to broaden it from rural libraries and libraries in cities of 10,000 or less, to make Federal funds available to all libraries, from the biggest cities on down to rural areas.

I won't ask you to put that in the record here about the municipal libraries, but I would like to have updated information on the school libraries for elementary and secondary, if not college.

(Discussion off the record.)

Miss BOMAR. Senator, to answer your question, I think we can get that information for you. I have some with me, but I won't try to give it to you at this time.

(The following information was subsequently supplied.)

AMERICAN LIBRARY ASSOCIATION,
Chicago, Ill., August 21, 1967.

Hon. WAYNE MORSE,
Chairman, Senate Subcommittee on Education, Committee on Labor and Public Welfare, Washington, D.C.

DEAR SENATOR MORSE: In response to Senator Yarborough's request of Miss Bomar (p. 1237 of the transcript of hearings on ESEA, August 15, 1967) for the percentage of elementary schools now having school libraries and the percentage having librarians, we regret that no up-to-date statistical data are available from the U.S. Office of Education. The most recent statistics on hand are the *School Library Statistics for 1962–63* published in 1964 by USOE which gives the following information:

Number of Elementary Public Schools reporting, 59,656.
Number with centralized libraries, 26,516 or 44.4%.

Of the public elementary schools participating in Title II, ESEA programs, 47,000 were without school libraries in 1965–1966. Of these, 7 percent now have libraries. Approximately 3,378 public elementary school libraries were established during 1965–1966, leaving a total of 43,710 public elementary schools without libraries.

According to information contained in a paper published in 1967 on "Library Manpower" prepared jointly by Henry Drennan, and Sarah Reed of the Library Services Branch, USOE, there was a projected figure of 8,050 elementary school librarians in 1965–1966 with 6 or more semester hours in library science serving in the public elementary schools. There were 77,584 public elementary schools in 1963–1964, according to the NEA Research Information Office.

Sincerely,

GERMAINE KRETTEK, *Director, ALA Washington Office.*

PRICES OF PUBLISHED LIBRARY MATERIALS

(By Frank L. Schick*)

Over the last half dozen years when writing this series for *The Bowker Annual* under the title "The Cost of Library Materials" as continuation of the Office of Education publication "The Cost of Library Materials: Price Trends of Publications" (OE–15029A, October 1961) which this writer prepared jointly with William R. Kurth, the primary news was the increased price of materials published during each year. This year prices have risen again but of even more interest were the discussions concerning the use of the price indexes and some related factors.

Early in 1966, John Gardner, Secretary of Health, Education and Welfare, had used the index while testifying on S. 3076, a bill which extended the Library Services and Construction Act and H.R. 14050 the campanion bill in the House. Robert W. Frase, Associate Managing Director of the American Book Publishers Council, objected to the use of the index in a statement he submitted on May 20 to the Senate Committee on Labor and Public Welfare. He admitted that the index "was designed for library budgetary purposes and is a useful tool in that connection." He went on to say that

1. The index "is by no means a measure of all book prices."
2. "Nor in any way comparable to the Consumer Price Index."
3. The index "omits paperbound books, textbooks, encyclopedias and backlist books."

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*Director, School of Library and Information Science, University of Wisconsin—Milwaukee.

4. "The index gives disproportionate weight to high priced books of limited sale."

In Mr. Frase's view the best measure would be the average price per copy paid by purchasers for various categories of books taken as a whole.

These views were discussed at a meeting of the ALA–RTSD Materials Price Index Committee during the ALA New York Conference and an Ad Hoc meeting of ALA and ABPC. At that time, Frase added a fifth objection indicating that over the last five years the discount of libraries had substantially increased and that the index does not reflect the actual lower cost to the libraries. My answer to this criticism was that every library gets a different discount from every publisher and that a library merely needs to know the increased list price of various categories of books and periodical subscriptions to adjust the discounts for its own calculations.

The committee members of RTSD–ALA and this writer agreed with Mr. Frase's other viewpoints and consequently decided to change the name of the index and to omit further comparisons with the U.S. consumer and wholesale price indexes. At the suggestion of Daniel Melcher and Robert Frase, and subsequently approved by Library Materials Price Index Committee, it was decided to publish the number of titles involved in each category annually. The committee agreed to consider the use of other indexes when they are properly developed and tested. Reported for 1966 are data for hardcover and paperback books and for periodicals and serials. Readers are advised that these data are prepared for the purposes of budget preparation.

During the past year the legislative use of the indexes received a considerable amount of attention. The Senate Committee on Labor and Public Welfare stated in its report of June 21, 1966, on the Library Service and Construction Bill (S. Rep. 1291) the following:

"Last year in its report on the Higher Education Act of 1965 (S. Rep. 673), the committee expressed its concern that the cost of books and periodicals has risen more rapidly than the cost of living. The Commissioner of Education and the Librarian of Congress, as indicated by their testimony during the hearings on this bill, share this concern. The American Book Publishers Council, in its statement, disputed some of these statistics and indicated that the Council would be glad to cooperate with the Department of Health, Education, and Welfare in arriving at a proper base for measuring changes in the prices of library and text books."

On July 20, 1966, Mr. Joseph Colmen, Deputy Assistant Secretary of Health, Education and Welfare, called a meeting of representatives of ALA, ABPC and U.S.O.E. to discuss how to comply with the suggestions of the Senate Committee. Helen Welch, Robert Frase and this writer drafted a report for this Ad Hoc Committee in which it was recommneded that the index be called List Price Index (for Trade-Technical Books) and that a variety of indexes be developed to adjust to the wide range of published materials. This writer hopes that the proliferation of price indexes be kept to a minimum because the resulting confusion will counterbalance the benefit of such tools. To be useful they must show price fluctuations concisely and clearly, but they will not necessarily reflect publishers' operational costs or profits. I understand that the Bureau of Labor Statistics or some other government agency will be approached to assist with drafting an index or series of indexes to determine book prices adequately. Until these are developed, tested and tried the tables on the following pages continue to provide useful guidelines for budgetary purposes.

Price Indexes

Library Materials Price Index Committee (ALA), Marietta Chicorel, Chairman

Responsibility:

The following price indexes have been prepared with the sponsorship of the Library Materials Price Index Committee.

Intent:

These price indexes are designed to measure:

(a) price fluctuations of materials newly published in the last current year against that of previous years, and

(b) to show the increase or the decrease in the titles newly published in a given year.

Scope:

The study omits the following categories: textbooks, government documents, encyclopedias, and books under 49 pages; General works, Philosophy, Sociology, Language, Home Economics, Travel.

Method:

Average prices represent a mathematical average of the total of prices in each of the categories, divided by the total number of titles in each. The total average, also, is derived from the grand total of all prices in all categories divided by the grand total number of titles.

Participants:

INDEX

Table 1. List Price Index of Books (Hardcover, Trade-Technical) By category, Selected Years 1957–59 Through 1966.

Prepared by R. R. Bowker Co., Chandler Grannis, Margaret McFarland, Doris Innis.

TABLE 1.—*List price index of books (hard cover, trade-technical) by category, 1957–59 through 1966* [1]

[Index of 100 is equal to average price, 1957–59]

Category	1957–59		1963		1964		1965		1966			
	Average price	Index	Average price	Index	Average price	Index	Average price	Index	Total number of books	Total price	Average price	Index
Agriculture	$6.01	100	$7.60	120.5	$7.69	128.0	$8.04	133.9	205	$1,715.55	$8.37	139.2
Art	10.89	100	10.32	94.8	10.68	98.1	10.60	97.3	774	11,404.11	14.73	135.4
Biography	5.02	100	6.56	130.7	6.65	132.5	7.65	152.6	879	6,654.88	7.57	150.9
Business	7.21	100	9.47	131.3	9.74	135.1	9.68	134.5	434	4,111.82	9.47	131.2
Children's books	2.63	100	2.94	111.8	3.06	116.3	3.11	118.2	2,357	8,144.25	3.46	131.6
Economics	6.24	100	8.70	139.4	7.63	122.3	8.43	135.0	712	6,466.65	9.08	145.5
Education	4.78	100	5.71	119.5	5.50	115.0	5.78	121.0	590	3,309.19	5.61	117.5
History	6.25	100	6.75	108.0	7.73	123.7	8.83	141.3	1,081	9,256.98	8.56	137.0
Law	8.86	100	9.09	102.6	9.96	112.4	10.64	120.0	291	3,185.17	10.95	175.5
Literature:												
Fiction	3.48	100	4.17	119.8	4.14	118.5	4.34	125.0	1,471	6,652.99	4.52	130.0
General	3.32	100	5.31	159.9	5.16	155.4	6.90	208.0	1,165	7,776.00	6.67	201.0
Poetry	3.16	100	4.37	138.3	4.11	130.1	3.92	124.0	528	2,504.82	4.74	150.0
Drama	3.86	100	6.38	165.3	5.91	153.1	5.47	142.0	214	1,428.26	6.67	172.0
Medicine	8.20	100	10.98	133.9	11.22	136.8	11.88	144.9	1,029	12,724.13	12.37	150.8
Music	5.95	100	7.79	130.9	6.98	117.3	8.04	135.2	200	1,630.07	8.15	137.0
Religion	3.73	100	4.48	120.1	4.63	124.1	6.72	180.2	1,169	6,292.26	5.38	144.2
Science	8.14	100	11.22	137.8	10.99	135.0	12.13	149.0	1,885	22,096.62	11.72	144.0
Sports	4.68	100	5.59	119.4	6.13	131.0	6.58	140.8	348	2,186.42	6.28	134.0
Technology	8.33	100	10.69	128.3	11.02	132.3	12.30	147.7	925	11,570.54	12.51	150.5
Total	5.29	100	6.55	123.8	6.93	131.0	7.65	144.5	16,257	129,110.71	7.94	150.0

[1] This index of prices is based on the tabulation of the books recorded in the "Weekly Record" section of the Publishers' Weekly for the years indicated. Not included are paperbound books, Government documents, and encyclopedias. Also not included are the following subject categories: General works, home economics, language, philosophy and psychology, sociology, and travel.

The base period now used is the period 1957–59. The necessary data for the 1957–59 base period have been compiled by the Library Materials Price Index Committee, Marietta Chicorel, chairman, of ALA's Resources and Technical Services Division (Acquisitions Section). Figures for 1963 were compiled in the office of Frank L. Schick, and for 1964–66 by the PW staff.

Senator YARBOROUGH. The next witness, Mr. Kenneth Lund, vice president, Scott, Foresman & Co., Glenview, Ill., American Book Publishers Council, American Textbook Publishers Institute.

STATEMENT OF KENNETH W. LUND, VICE PRESIDENT, SCOTT, FORESMAN & CO., GLENVIEW, ILL., AMERICAN BOOK PUBLISHERS COUNCIL, AMERICAN TEXTBOOK PUBLISHERS INSTITUTE; ACCOMPANIED BY ROBERT W. FRASE, DIRECTOR, JOINT WASHINGTON OFFICE OF THE INSTITUTE AND THE COUNCIL

Mr. LUND. Thank you, Senator.

I have with me, also, Mr. Robert Frase, who is the director of our joint Washington office.

Senator YARBOROUGH. We welcome both of you, gentlemen.

Mr. LUND. Thank you, sir.

I am, of course, appearing on behalf of the two groups mentioned who between them represent approximately 95 percent of books published in America. I recognize the time pressure and the other factors here today, and in my effort to cooperate I know that the full statement will be made part of the record.

Senator YARBOROUGH. Yes, the full statement will be published in the record.

(The prepared statement of Mr. Lund follows:)

PREPARED STATEMENT OF KENNETH W. LUND, VICE PRESIDENT, SCOTT, FORESMAN & CO., GLENVIEW, ILL.

My name is Kenneth W. Lund, senior vice president of Scott, Foresman & Company, book publishers, of Glenview, Ill. I am appearing today on behalf of the American Textbook Publishers Institute and the American Book Publishers Council, the two major professional associations of book publishers, the members of which produce more than 95% of the books of all kinds published in the United States. I have with me Mr. Robert W. Frase, Director of the Joint Washington Office of the Institute and the Council. The 125 members of the American Textbook Publishers are publishers of elementary, secondary and college textbooks, subscription reference books such as encyclopedias, educational tests and maps. The 192 members of the American Book Publishers Council publish all other types of books such as adult general (or trade) books, juvenile books, scientific, medical and professional books, religious books, university press books, book club books and paperback books of all descriptions. Many of the major publishers are, of course, members of both associations. My own firm is primarily a publisher of elementary, secondary and college textbooks, but more recently we have also gotten into the field of children's books and adult general books.

We are delighted to have this opportunity of expressing our views on the bill before you and hope these comments may be of help to your Committee in amending and revising the measure when you get into executive session. Our remarks divide themselves into six specific topics, but before getting into this detail let me say that we support the bill as a whole and its general purpose of amending and extending existing legislation "by extending authority for allocation of funds to be used for education of Indian children and children in overseas dependent schools of the Department of Defense, by extending and amending the National Teacher Corps program, by providing assistance for comprehensive educational planning, and by improving programs of education for the handicapped; to improve programs of vocational education; to improve authority for assistance to schools in federally impacted areas and areas suffering a major disaster."

TIMELY EXTENSION OF EXISTING LEGISLATION

We were very glad to see in President Johnson's health and education message of February 28 the emphasis on a better educational timetable. This has two aspects—early renewal of appropriation authorizations for education and library programs, and early action on the annual appropriation bills for these programs. The Senate bill before you (S. 1125) provides for some extensions of elementary, secondary and vocational programs, but we believe the bill as passed by the House (H.R. 7819) is preferable to the extent that it goes further in extending authorizations, especially with respect to Titles I, II and III of the Elementary and Secondary Education Act of 1965 which would be extended to June 30, 1969. We have had a good deal of experience as publishers with these ESEA titles because substantial quantities of books and other instructional materials have been purchased with these funds. We know from experience that there is a great deal of waste and inefficiency involved when Federal funds do not become available until well into the academic year which starts in September, rather than when the normal educational planning, budgeting and ordering of supplies is done in the spring. We would be concerned, therefore, that if extensions of Titles I, II and III of ESEA are postponed for Congressional consideration to 1968, the authorizations, and subsequently the appropriations which must be based on them, would delay the availability of funds well beyond July 1, as was the case in 1966. We would hope, therefore, that your Committee would go along with the House bill in extending through fiscal 1969 the authorizations of the ESEA titles in the bill before you rather than waiting until next year.

EARLY ACTION ON APPROPRIATION BILLS

The President's education message contained the following statement:

"I urge that the Congress enact education appropriations early enough to allow the Nation's schools and colleges to plan effectively. I have directed the Secretary of Health, Education, and Welfare to work with the Congress toward this end."

This problem has become a matter of increasing concern to everyone involved with education in the United States, and especially members of this Committee. Senator Prouty has introduced S. 1644, and tens if not scores of bills have been introduced in the House this year urging that the appropriation bills for education programs be passed by May 1 of each year in order to provide for orderly education planning and budgeting. We would not presume to advise your Committee or the Congress as to how this problem can be met as a matter of technical legislative procedure. We only want to add our voice to the recommendation that it be solved in some way. There is probably no other single legislative action which could be taken that would so much increase the efficiency of the education and library legislation now on the statute books.

STATISTICS ON EDUCATIONAL MATERIALS

It would be helpful to the book publishing industry—and in turn the separate industry which actually manufactures our books, the printers and binders—to have reasonable good statistics from the U.S. Office of Education on what kinds of published materials, and in what quantities, are being purchased under the major Federal education and library programs. With a good historical base on what has happened, it would then be possible for the U.S. Office to project these figures into the future as part of the five year forecasts which are to form an integral part of the new Programmed Budgeting System. Book purchases under the new Federal education and library programs of the last few years are not a large factor in total book sales—possibly on the order of 3% of the total in 1966; but they may be quite significant for certain specific types of books and could in the short run result in a squeeze on stocks and manufacturing capacity if there should not be sufficient time for advance planning. The Book Manufacturers' Institute, which is made up of the specialized printers and binders of books, passed the following resolution at their annual meeting last November, which was forwarded to Secretary Gardner and Commissioner Howe:

Resolved, That the U.S. Department of Health, Education, and Welfare and the U.S. Office of Education be urged to provide continuing information on the use of books and other printed materials under the Federal education and library programs, including past expenditures and estimates of future expenditures,

which will enable publishers and manufacturers of printed educational materials and their materials suppliers to plan better for adequate production and distribution of the required educational materials; and be it further

Resolved, That the Book Manufacturers' Institute, stands ready to confer jointly with representatives of the publishers' associations and the Department of Health, Education, and Welfare to develop the details of the information required for appropriate private industry planning in order that the most effective implementation of Federal education programs may be assured.

We have had some subsequent discussions on this matter with officials at the U.S. Office and we hope to be able to work out with them a statistical program which will be beneficial to both the educational institutions which are consumers of our product and to the producers and suppliers of these materials in the private sector of the economy.

AUTHORIZATION OF CONTRACTS WITH PRIVATE PROFIT-MAKING ORGANIZATIONS

There are several provisions in the bill which would authorize contracts with private profit-making agencies as opposed to the present general limitation on the Office of Education to letting these contracts only to nonprofit agencies. One of these provisions is on page 30 of the bill, lines 15 and 16, which would permit the Commissioner to make contracts with "public and private agencies, institutions or organizations" for special projects in the field of comprehensive educational planning, especially on an interstate basis. Another is on page 34 of the bill, lines 22 and 23, which would permit the Commissioner to contract with "public or private agencies or institutions" for projects in the fields of recruiting personnel for service to the handicapped and to improve the dissemination of information on educational opportunities for the handicapped. We believe that these are important steps in the right direction and should be extended to all the grant and contract programs of the U.S. Office. This would improve the quality of educational research and dissemination by making available the skill and experience of private enterprise, including the publishing industry, as well as nonprofit institutions.

AUTHORIZATION FOR THE PRODUCTION AND DISTRIBUTION OF EDUCATIONAL MEDIA

I come now to a provision of S. 1125 which frankly disturbs us—this is the language on page 38, lines 15 through 19, which read as follows: "(2) producing and distributing educational media for the use of handicapped persons, their parents, their actual or potential employers, and other persons directly involved in work for the advancement of the handicapped,".

Commissioner Howe, in his prepared statement of March 2 on the bill in the House hearings, explained and justified this provision in the following way:

"The U.S. Office of Education may now support research regarding educational media. This is generally restricted to research concerning the effectiveness of existing media. With the exception of the specific authority under the Captioned Films for the Deaf program there is no authorization to enter into contracts for the development of new media. There is no authorization which would permit specialized training programs to train specialists in the use of such media nor is there any authorization which would permit involvement in the production of such materials or media except for that under the Captioned Films program. Although the Office of Education has no particular interest in the production and distribution of educational materials there are some instances where this can be important. For example, there is some value in the support of sheltered workshops for adolescent-aged retarded or otherwise handicapped youngsters. Such support would indirectly or directly require support for production of materials produced in the workshops.

"The support for the development of instructional media is particularly important at this time. Development costs run high, yet the future of education for the handicapped may well depend upon the availability of media not yet off the drawing boards."

Although the granting of authority to the U.S. Office of Education to get into the business of producing and distributing educational materials is limited in this provision of the bill to the production of such materials for the handicapped, their parents, their employers and other persons involved, this authority strikes us as being unwise in itself and a bad precedent. Unlike the situation in some other

countries, the U.S. Federal Government has not been responsible for the production and distribution of educational materials. This has been left to private enterprise and to some extent to nonprofit organizations and the result has been, I believe, better and more abundant educational materials than exist in any other country.

An example of what private enterprise can do—and is doing—in the specific field of materials for the visually and otherwise handicapped is the production of large type books. An enterprising and public-spirited man who has spent his entire professional life in the book publishing business, Mr. Keith Jennison, some four years ago saw the need for production of books in large type for the visually handicapped and also persons handicapped in other ways, such as physically and brain damaged. He established a firm to produce such books and has by this time published 100 titles. In 1966, 100,000 copies of these books were sold. Just recently Mr. Jennison signed a contract to produce textbooks in large type for the State of California. Although originally designed to serve the visually handicapped, large type books have proven valuable for persons handicapped in a variety of other ways.

We were not aware of this provision of the bill before it was introduced and discussed by Commissioner Howe in his statement on the opening day of the House hearings on March 2. We hope that it will be possible to work out amending language which will meet any legitimate need for the encouragement of the production of instructional materials for the handicapped without getting the Federal Government into the publishing business.

BILINGUAL EDUCATION ACT, S. 428

We have been following with great interest the hearings on Senator Yarborough's bill, S. 428, the Bilingual American Education Act, to amend the basic Elementary and Secondary Education Act by providing funds to schools to improve the education of bilingual children through the training of teachers, research, and the provision of materials. We understand that the bill may be considered as an amendment to S. 1125 rather than going through the more time consuming route of a separate legislative measure. We support the objectives of the Yarborough bill and would look with favor on adding it as an amendment to the bill before you.

The improvement of education of bilingual children is an important problem in a good many states and municipalities and deserves special attention. There is quite a volume of useful instructional material already available in this field, and more could easily be produced if a sufficient market existed to encourage its publication. It should also be pointed out that these special materials would serve a useful purpose in improving the quality of education in developing countries, especially those using the Spanish language.

In closing, let me repeat our general support of the bill and to express again our gratitude to the Committee for this opportunity to present the views of the book publishing industry.

Mr. LUND. I would, of course, offer the preamble of a full ringing and fervent endorsement of the general concept of what this legislation has meant to education, much in the line of subscribing to what our colleagues of the American Library Association and others have said before.

Our comments in fact fall along the general line of what could be called technical comments, and I will thereby hasten on to give you a few of those and try to make room for some who follow.

The first has to do, of course, with the timely extension of existing legislation. It is, of course, our plea joining with many others that ways be found to extend the act to June 30, 1969, and to make in effect long range planning and early funding part of the large body of Federal legislation in this field.

I think the reasons are apparent.

Excellent efforts need time to jell, time to plan, time to invest, and

time to reflect the quality of thinking the best minds are capable of, and this kind of long range planning moves it from crash programs into effective and direct efforts, moving on the problems as they are defined.

OE STATISTICS IMPROVEMENT

A second comment has to do with the improvement of statistics from the U.S. Office of Education. Steps are being made in that direction, but let us add our plea that these are also an integral part of effective planning, if we would cooperate with the general spirit of the Congress and the effort of the various sectors of American education.

We urge, also, full attention to the portion of the bill which authorizes contracts with private profitmaking organizations. We believe this kind of recruitment of the ideas and the efforts from the private sector, joining with the universities and other parts of the public sector truly involves the total education community in trying to do for education what all of us agree certainly needs doing.

ROLE OF OE

Now for two particular comments that we would emphasize. We, of course, join in the broad objectives of involving the U.S. Office of Education in the problems of attacking the special educational needs of the handicapped. We are concerned, however, that the language as introduced in the bill seems to make it broadly possible for the U.S. Office of Education to enter into the publishing business.

We think that appropriate wording would concentrate their attention in the research, development, and experimentation functions, and ultimately make it possible for these ideas to be translated, as they have in the past, into a multitude of materials which the publishing industry would be very glad to work on in a competitive way in this particular field.

We hope that there will be apportunities to further discuss this with the Office of Education people.

BILINGUAL SUPPORT

My final comment, in the interests of time, is addressed to something that we consider most important. I don't believe I need to suggest to you what it is. It is obviously our concern with the bilingual education problems in the United States, and we are urging that, whatever method seems best to accomplish this objective, this method be found.

If it is in terms of the Yarborough bill directly, we are, of course, most pleased, but we are also equally interested in any method of accomplishing this, if it can be done by amending the basic ESEA to accomplish the same objective.

In either event, this goal is an important one. The improvement of education of bilingual children is most certainly a most important problem in many States and municipalities, and we know that the

publishing industry, which has already produced some materials, could benefit from an aggressive attack on this problem, and could provide special materials and develop many more special materials which would have particular advantage to those using the Spanish language and certainly to all children with bilingual problems.

In closing, I would like to again repeat our general support for the full concept of the bill, and to thank you and Chairman Morse for giving us a pace in your deliberations.

May I thank you, sir.

Senator YARBOROUGH. Thank you, Mr. Lund, for this statement and for the information and recommendations you have brought to the committee. I think particularly important is that we have 2-year planning and planning in time that we vote the authorizations in time for these districts to know what moneys they will have available.

Mr. LUND. Thank you, sir.

Senator YARBOROUGH. You point out quite clearly the disruption and loss of time where the funds do not become available until the end of the academic year.

I thank you also for your position on the bilingual education bill and on bilingual education generally over and beyond the bill.

Of course, as you know, the Spanish-speaking children constitute the greatest problem in this regard. There are so many millions of them of school age, and they are greater in number. It is of primary importance in the five Southwestern States of Texas, New Mexico, Arizona, Colorado, and California.

But in the bilingual hearings we held in New York, held in a Harlem school, we were advised that some thing over 20 percent of the schoolchildren in New York City now come from homes where Spanish is spoken as the mother tongue, and come to school without a bilingual capability, with Spanish as the mother tongue. We have amended our bill that have come out of the bilingual subcommittee to strike out the designation of people of Puerto Rican descent or Mexican American descent and put it on Spanish speaking. We had an appeal from the Senators from Florida to have it broadly Spanish speaking because of the large number of Spanish extraction from Cuba in Florida which is making that a problem in Florida. With some seven States it is a major educational problem, including the two most populous States in the Union, New York and California, and the fourth most populous State, Texas, so it is a matter of importance in areas of great population.

There are 1,750,000 children in the Southwestern States alone with Spanish as the mother tongue and it is growing.

In our hearings in the lower Rio Grande of Texas next to Brownsville, that is a citrus area, we learned from the school authorities there that 70 percent of all the children attending schools in the valley, that is four counties in that area, 70 percent of them come from Spanish-speaking homes, come to school, very few with an English facility. But of those who entered school last September in the first grade, 90 percent were from Spanish-speaking homes in the valley.

This is an astonishing figure.

Mr. LUND. That is right.

CHICAGO BILINGUAL PROBLEM

My own experience includes similar experiences in the city of Chicago, where I was once with the school administration, and that city is only second to New York in terms of the Spanish-speaking population in the schools.

May I thank you, sir.

Senator YARBOROUGH. Chicago?

Mr. LUND. Yes, sir.

Senator YARBOROUGH. We didn't even have Chicago in our calculations.

Well, I have been advised that many of the Spanish-speaking migrant farmworkers from Texas who went to Michigan to work in the wheatfields ended up working in the automobile factories and stayed there. I know there are numbers there, also.

TEXTBOOK COSTS

I have been requested on behalf of certain members of the subcommittee who can't be here, to ask you about the increasing cost of textbooks. They say that the cost of textbooks has increased faster than the cost of living. I wonder why the cost of textbooks has gone up faster than the general level of the cost of living.

Mr. LUND. We would like to submit some data on that question. I have some doubts on the accuracy of the statement, first of all.

Secondly, we are, of course, facing the problems of increased costs in conjunction with labor and materials and all that goes with it, and we have in general in our own organization, as I have looked at this problem, found that our increase over the last 5 years has not been leading, but lagging, the basic increase in cost.

We are, of course, moving into a time when we expect much more of our materials. They are getting diversified. They are beginning to lead into many different types of areas.

What used to be one book for a grade in a State is now an assortment of materials, and this results in, of course, an increased expenditure for materials, but it is buying many more materials in the process. It is an increase in expenditure per pupil, but it is not necessarily an increase in expenditure per item, if I may make that distinction, so I believe the schools are expecting much more as we provide for slow learners, for those who have special interests and talents. We are expecting to surround children more and more with many kinds of books.

I quite agree with you that the heart of education is the library, in the multitude of materials; and I think if you divide the cost, the dollars spent on materials by the number of pupils, you get an increased expenditure per pupil, but not necessarily a comparable increase in expense per item, if I can use that distinction.

Senator YARBOROUGH. Yes, and I wish, Mr. Lund, that you would furnish data on that, not here because of the limitation of time. We know everything is going up. On behalf of the Textbook Publishers Institute and the American Book Publishers Council you will furnish that. We don't need that today, but in time before these hearings close, comparable data on that. We would like to have it for the record.

Mr. LUND. We certainly will supply it.
(The information subsequently supplied follows:)

The national cost of education compared with the average price (net to publishers) per unit of textbooks sold

	Base year 1960	1961	1962	1963	1964	1965	1966	Percent of increase over base year 1960
Elementary textbooks: Average price	$1.87	$1.86	$1.96	$2.04	$2.14	$2.22	$2.26	20.8
Percent increase or (decrease) over preceding year		−.5	5.3	4.1	4.9	3.7	1.8	
High school textbooks: Average price	$2.93	$3.06	$3.18	$3.20	$3.16	$3.20	$3.42	16.6
Percent increase of (decrease) over preceding year		4.4	3.9	.6	−1.2	1.2	6.8	
C E I (NEA) [1]	$393.00	$418.50	$433.00	$460.00	$484.00	$525.00	$564.00	43.4
Cost of education per pupil based on ADA [2]		$7.0	$3.5	$6.2	$5.0	$8.4	$7.4	
C E I (SM) [3]	$304.00	$315.00	$335.00	$352.00	$373.00	$402.00	$435.00	42.7
Cost of education index		3.6	6.3	5.0	5.9	7.7	8.2	

DEFINITIONS

[1] NEA—National Education Association.
[2] ADA—Average daily attendance.
[3] SM—School Management magazine, January 1967.

Textbooks—Books in which materials are systematically organized for use in the instructional process.
Net price—Actual prices publishers receive for books after discounts. (Obtained from an independent survey made by Stanley B. Hunt & Associates, 10 East 40th St., New York, N.Y.)
Elementary—Grades 1 to 8.
High school—Grades 9 to 12.

BILINGUAL EDUCATION

Senator YARBOROUGH. I want to advert for a moment to this bilingual education problem. We have had exhibited before the Bilingual Education Subcommittee of textbooks printed in Spanish and English in parallel columns. They are rather oblong books, not the conventional size. They are folio in width but not in heighth. They are about a folio width roughly, wider than long. This is primarily in science and mathematics books. They are ordered by South American countries, Chile, Ecuador, and they are published by some publishing company in Massachusetts, as I recall.

Mr. LUND. Addison Wesley is the company.

Senator YARBOROUGH. Yes, and I have exhibited these books at hearings in Texas and California and in areas of heavy concentration of children who are Spanish speaking, and people in the educational field there, teachers and others have expressed great interest in such books for children in the first grade, for beginners. If it will work for children in Latin America who are not bilingual, who come from Spanish-speaking homes and who are learning to understand these books in science and matters and who want them because of the progress the United States has made in the field of science and mathematics, why wouldn't it be good in schools with children from Spanish-speaking homes in the United States who they are trying to make bilingual scholars in each language?

The object of this bilingual educational bill is to make them literate in each language instead of leaving them illiterate in both languages, as many of them now are. They form the heaviest percentage of all the dropouts in our State.

Mr. LUND. To us that is an excellent description of the way the problem must be attacked on all fronts, and that and many other techniques must be found.

Senator YARBOROUGH. Of course I am not a psychologist. I am not attempting to say that is the best way to do it, but I am wondering about those books.

I have attended laboratories where there are three different methods of teaching bilingual classes. I saw a class in Laredo where that lady, an American of Anglo extraction taught in Peru for about 10 years. She teaches the words, the words for ear, eye, nose, teaches both languages simultaneously in the classroom hour after hour. We obtained a language lab financed under this bill in Edinburg, Tex., where they have a central room where you can observe five or six classrooms, of course with heavy glass. The teachers aren't seen there. It is all televised. It is television not for entertainment but for learning aids so the principal can watch.

And they use the technique where a teacher teaches a class now in English. Another teacher comes in and teaches an hour in Spanish.

There the theory is that the child associates the language with that teacher. It is better to change teachers for the language.

We saw a third method being used in schools at San Antonio, bilingual teachers teaching, with the same teacher but teaching in Spanish for awhile and then shifting over to English, and there must be many other methods.

I have seen three that are being experimented with in school districts, and each thinks theirs is the best, but that is part of the experiment going on.

But none of them had these bilingual textbooks. They just weren't available for children in those grades.

Mr. LUND. You have described very effectively the differences in opinion and approach. Then you finally come down to the basic question of what the educator calls an oral aural listening speaking bath in the two languages. What approach shall we use to introduce the process of reading? This may be done either in English rather obviously directly, or in Spanish, but probably because the student is getting meaning out of the symbol and the page, one method has to be used for the teaching of the learning process.

Then you move quickly from mastery in one to trying to retain bilingualism which ought to be the goal, I am sure, from the pedagogic point of view. Your goal should not be to eliminate one. It is to treasure, if I can call it, the dual culture.

Senator YARBOROUGH. That is the goal, because in this process they have now, they end up not speaking either language well.

Mr. LUND. That is right.

Senator YARBOROUGH. Thank you very much.

Mr. LUND. Thank you, sir.

Senator YARBOROUGH. We will call as the next witness Dr. Monroe

Neff, chairman of the Legislative Committee of the National Association for Public School Adult Education.

Dr. Neff, proceed in your own way. File your statement, condense it if you wish.

STATEMENT OF DR. MONROE NEFF, CHAIRMAN, LEGISLATIVE COMMITTEE OF THE NATIONAL ASSOCIATION FOR PUBLIC SCHOOL ADULT EDUCATION

Mr. NEFF. First I want to thank you for amending the bilingual act to include adult education. I appeared before your committee at that time, and we appreciated that being included.

I would like to highlight several parts of testimony that I have prepared to be submitted to you for inclusion in the record.

Senator YARBOROUGH. You testified in New York at the hearings held there?

Mr. NEFF. No, here.

Senator YARBOROUGH. Oh, it was here?

Mr. NEFF. Yes, sir. It was before you made your trip over the country.

Senator YARBOROUGH. Before we started?

Mr. NEFF. Yes, sir.

Senator YARBOROUGH. I recall that testimony now. I recall that it was here.

Mr. NEFF. Yes, sir.

Senator YARBOROUGH. It was a very stimulating hearing here, which stimulated more hearings on the road than I have ever held on any act in my 10 years. A lot of the interest was caused by the very stimulating testimony we had here in Washington.

Proceed.

Mr. NEFF. This is much the same in that we are concerned with the adult education program again through the Adult Education Act of 1966 which was a part of the amendments of the Elementary and Secondary Act of 1966, Public Law 89–750, and over a half million adults have been served through this bill, taking the adult up to the eighth-grade level.

We have served a total of about half a million adults.

But in the United States there are 64 million adults that have less than a high school education, and we are running into problems over the Nation in that we are taking people up to the eighth-grade level, adults, 18 years of age or over, and we are dropping them. We are stopping at that point.

Well, of course you have supported our fight for more funds for adult education programs, and you are very familiar with this program. But we have over 1 million dropouts from our public schools each year. These people are entering adulthood. Each year we have that many, and we are only serving some 200,000 to 300,000 a year with this Adult Education Act.

So, actually, we are gaining each year more adults with less than an eighth grade education and high school education than we are serving. Even with our efforts we are becoming more undereducated as a nation each year.

We show that we have 76.2 million adults in the work force today, and, of course, many of these people are underemployed. We put them in a slot and expect them to be happy, and we feel that there are too many barriers in people's way and a major one is that they do not have the opportunity to complete a high school education.

Senator YARBOROUGH. Pardon my interruption, Dr. Neff, but you said 76 million adults, is that correct?

Mr. NEFF. In the work force; yes, sir.

Senator YARBOROUGH. Do you know what percent of that 76 million have not finished high school?

Mr. NEFF. In the United States, 64 million adults have not finished high school.

Senator YARBOROUGH. But how many of those in the work force?

Mr. NEFF. I don't know.

Senator YARBOROUGH. How many of those? Do you have any data about the age level of these?

Mr. NEFF. There are over 18—I could provide this for the committee; I will send this to you; yes, sir.

Senator YARBOROUGH. I wish you would. Show what extent of the younger are in the work force.

Mr. NEFF. We have the information and we will get it to you.

(The following letter was subsequently supplied by Dr. Dorland follows:)

NATIONAL ASSOCIATION OF PUBLIC SCHOOL ADULT EDUCATORS,
Washington, D.C., September 1, 1967.

Hon. WAYNE MORSE,
Chairman of the Senate Education Subcommittee,
Washington, D.C.

MY DEAR SENATOR MORSE: We appreciated the opportunity of testifying for adult education before your Subcommittee earlier this month. There is one other legislative item to which we would like to draw your attention. We are strongly in support of S. 1700, introduced by Senator Bible and calling for a minimum grant of $100,000 per state for adult basic education programs. Through an administrative oversight the Adult Education Act of 1966 does not provide for any minimum grant for any state. Some of our smaller states are being unnecessarily handicapped due to this oversight.

Fortunately, the inclusion of this provision in the legislation would not cost any additional money but would serve as an equity measure. Much progress has been made in smaller states such as Nevada, Vermont, New Hampshire, etc. and the adoption of the provisions of S. 1700 would be an important step to insure the continuation of the progress which has been made to date.

We will greatly appreciate any leadership you might exert in behalf of our smaller states. Since you have always been a staunch supporter of adult education programs, we feel that we can again turn to you with confidence.

Cordially,

JAMES R. DORLAND,
Assistant Executive Secretary.

Senator YARBOROUGH. Thank you.

Mr. NEFF. We feel that the patients and the people being pigeonholed in certain jobs and not being able to progress, not having the opportunity, that this causes individuals, families, to be unhappy, and these are the things that are causing some of the things that are happening in our major cities today.

On the last page we state, also, that besides extending basic education through the 12th grade, that we are faced with this problem of not having facilities for the adults to attend school, and most of the time we are forced to meet only during the evening.

We feel adult education needs to be during the day as well as the evening, so we also are asking that there be provisions for leasing or renting facilities, not the construction of them.

These two items, along with several others, are included in the bill S. 1995, which was introduced by Senator Hartke on June 23. I believe he appeared before this committee at that time with testimony and, of course, we support his bill.

That is a summary, a brief summary of my statement, and also I would like to have entered for the record a statement by Mr. James Dorland, who is executive secretary of the National Association for Public School Adult Education. He has gathered information from 12 programs across the Nation on adult education, and I would like also to enter his testimony in the record.

(The prepared statements of Mr. Neff and Mr. Dorland follow:)

PREPARED STATEMENT OF DR. MONROE C. NEFF, CHAIRMAN, LEGISLATIVE COMMITTEE OF THE NATIONAL ASSOCIATION FOR PUBLIC SCHOOL ADULT EDUCATION

Mr. Chairman and members of the subcommittee: I am Dr. Monroe C. Neff, Director of the Division of Continuing Education in the New York State Education Department in Albany, New York, and I am testifying as Chairman of the Legislative Committee of the National Association for Public School Adult Education, a department of the National Education Association. Today, I am accompanied by Mr. James R. Dorland, Assistant Executive Secretary of the National Association for Public School Adult Education and by Dr. Carl E. Minich, a Past President of the same organization. Dr. Minich is on leave of absence from his position as Director of Adult Education in Amherst, New York, to serve on the staff of the Division of Adult Education Service of the NEA. Our Association represents public school adult education teachers and administrators throughout the United States and the three of us are here today to request that this Committee does not overlook the educational needs of America's millions of adults who have not received a basic education or have not completed high school.

As a department of the National Education Association, our Association has strongly supported the Elementary and Secondary Education Act of 1965 and its subsequent Amendments. Last year we were exteremely gratified with the enactment of the Adult Education Act of 1966 as Title II of Public Law 89–750 (the Elementary and Secondary Amendments of 1966). This was an historical breakthrough for adult education because it meant that for the first time in our nation's history Congress had approved a bill embodying large scale federal aid to education not exclusively for boys and girls but also for adults.

As this Committee knows full well, the Adult Education Act of 1966 provided for programs in adult basic education and was designed to make better educational opportunities available to America's more than 10 million adults who had not reached the level of an eighth grade education. With a federal financial comment of 30 million dollars during fiscal year 1967, the national program of adult basic education has been widely acclaimed as one of the brighter spots in programs made possible by recent federal education legislation. Admittedly, the more than one-half million adults—and also their families—who have already been served through adult basic education programs are the primary beneficiaries of the recent adult education legislation, but this also gives eloquent testimony to the fact that many more American adults have yet to receive a basic education. This gigantic educational task is well underway but a great portion of it remains yet to be completed.

However, we are here today asking that this Senate Committee directs its attention to the educational needs of an even larger group of American adults—those over the age of eighteen who have not yet completed a high school education or its equivalent. The 1960 census revealed that this group numbered in excess of 64 million. Knowing, as we all do, the perennial problem of developing and maintaining an educational system which will retain young people until they complete high school, but realizing that *we have up to one million dropouts a year*, it is apparent that this problem of undereducation is increasing rather

than decreasing. Providing good education for our children (future parents) is so important but, in my opinion, it is vital that we work with and educate the adults that are making the action decisions that are causing things to happen in this nation. Even though we have 76.2 million adults in today's work force, many millions of these people are grossly underemployed. These millions feel that there are too many barriers in their way to job promotion. These barriers cause unhappiness in the individuals and their families. The nightmarish events transpiring in so many of our major cities this summer remind us almost daily of the effect that the twin enemies—undereducation and underemployment—have upon our society.

It is our desire that provisions be included in this year's amendments to the Elementary and Secondary Education Act so that opportunities will be made available for adults to complete high school under essentially the same conditions which have prevailed under the adult basic education programs of the past several years. We recommend that the pattern of operation of adult basic education programs continue unchanged but expanded. We urge that the term "adult education" be adopted to include programs for adults who do not now have a certificate of graduation (or its equivalent) from a school providing secondary education. This would accomplish the dual objective of providing opportunities for adults who perhaps have begun high school but have not completed it and would also afford a higher level of education for thousands upon thousands of adults who have completed adult basic education programs in the past several years but cannot financially afford to move on into high school level classes. In fact, many adults are having to stop school at the eighth grade level because there is no high school program available locally for the adult.

Since we in adult education are continually faced with the problem of lack of available day facilities for adults, we also urge that provision be made so that funds will become available for the leasing, renting, or renovating of buildings so that they might be used during the *daytime hours* when it is much more logical, practical, and convenient for adults to be in school.

Many of the legislative objectives of our Association are embodied in S. 1995 which was introduced by Senator Hartke on June 23 and referred to the Committee on Labor and Public Welfare. This particular Bill would attempt to meet what we see as the most pressing current adult education needs in the country today—high school programs for adults and more daytime facilities. It also makes specific provisions for programs in the vitally important areas of citizenship training, parent education, and consumer education. We wholeheartedly support the provisions of S. 1995 and ask that appropriate portions of it be included in this year's amendments to the Elementary and Secondary Education Act.

Mr. Chairman and Committee Members, we do truly appreciate the opportunity of appearing before you today to urge enactment of legislation for America's adults, as well as for her young people. The significant breakthroughs of the past several years have further convinced us that our credo "Learning is a lifelong process" can have real meaning for untold numbers of America's adults who receive the benefits made possible through adult education. We hope that the momentum which has been built up can continue. Thank you for making it possible for us to appear before you.

PREPARED STATEMENT OF JAMES R. DORLAND, ASSISTANT EXECUTIVE SECRETARY, NATIONAL ASSOCIATION FOR PUBLIC SCHOOL ADULT EDUCATION

Mr. Chairman and members of the subcommittee: As a professional staff member of the National Association for Public School Adult Education, a Department of the National Education Association, I am pleased to have the opportunity to submit this statement to support and supplement the testimony given today by Dr. Monroe C. Neff, Chairman of our Legislative Committee.

On August 9 I had the privilege of attending the hearings in which this subcommittee received the testimony of Senator Vance Hartke on S. 1995 to amend the Adult Education Act of 1966. It was gratifying to hear the expressions of support for the principles of adult education given by the Chairman and other Subcommittee members. The members of our Association are practicing adult educators—teachers and administrators—caught up in what we feel is one of the most exciting educational ventures of our time. Perhaps we are more pragmatic than idealistic, and above all we are realistic enough to know that there are many roadblocks in front of us as we petition the federal government to commit funds in support of high school education for adults. Nevertheless, our members

feel so strongly that there is an almost desperate need for considerably more high school programs for adults that we indeed welcome this opportunity to share with you the results of an informal survey which I conducted within the past two weeks.

I contacted a random nationwide sample consisting of 12 directors of large city or state adult education programs, asking them for a statement about high school education programs for adults within their city or state. Some of these statements mention past accomplishments, some refer to current needs, some deal with both. All of the information which follows has been received in our office since August 7 in response to the request we made for information to be submitted to this Committee. From William K. Bohnstorff, Director, Division of Adult Education, New Orleans Public Schools:

"During the fiscal year July 1, 1966–June 30, 1967 the New Orleans Public School system operated 36 classes for adults who wanted to obtain high school equivalency diplomas. Over 1800 students enrolled in these classes with 342 adults successfully completing the requirements and receiving equivalency diplomas.

"During the previous fiscal year only 204 adults received such diplomas. The increase of 138 over the previous year was due to the fact that our New Orleans Public School system added over $6000.00 to the state appropriation of $30,000.00 to operate additional classes. *Even with these additional classes we still had over 700 adults who were on waiting lists and anxious to attend such classes.*"

From Mrs. Virginia Banks, Consultant, Division of Adult Education, Colorado Department of Education:

"THE NEED FOR AN ADULT HIGH SCHOOL PROGRAM IN COLORADO

"The 1960 Census showed that 47.9% of the population of Colorado 25 years of age and older lacked a high school diploma. Only 19% of the school districts in Colorado offer an adult high school completion program. Over 5,000 adults were enrolled in 1966–67. The School Foundation Act in Colorado provides financial assistance to local districts which have adults 21 years of age or under enrolled in the high school completion program. The average age of the student working in such a program, however, is 33. Consequently, a very small amount of state money goes to this program.

"The need for a strong high school completion program is further underscored by the fact that approximately 4,300 students took the G.E.D. test last year. About three-fourths of this number passed. This also emphasizes the great need in today's society and economy for people qualified beyond the basic levels in education.

"*Lack of adequate financing is the greatest deterrent to the establishment of a flexible, on-going program in high school subjects for adults.* The people who need the program the most are the least able to pay the high fees required and to purchase their own books. Funding at this level to bring about the complete implementation of the Adult Education Act of 1966 is really mandatory."

From Dr. Herbert W. Lehmann, Director of Adult Education, Chicago Public Schools:

"STATUS OF ADULT LITERACY IN CHICAGO

"One of Chicago's most serious social problems is the low educational level of a high proportion of its adult citizens over twenty-five years of age. The data given below were taken from the 1960 census tracts for the 2,000,000 adults over twenty-five years of age who reside within the corporate limits of Chicago. While these data are seven years old, it is my opinion that they have not changed appreciably since that time, because as persons become better educated, their incomes improve and they move to suburban areas leaving space into which the lesser educated move.

"Grade level	Number of adults over 25	Percent of population over 25
0	59,408	2.8
1 to 4	131,344	6.1
5 to 7	274,408	13.0
8	447,954	20.0
9 to 11	466,459	20.8
Total	1,379,573	62.7

"As can be seen from the above statistics, approximately two out of every three adult Chicagoans lack a high school diploma at a time when this educational level has become the minimum for consideration for employment in most occupations. Furthermore, adolescent school dropouts are aggravating the situation still more.

"The Chicago Public Schools have struggled for over a century through local taxation to try to stem this overwhelming tide. During the past two years Federal funds for adult basic elementary education and some State of Illinois funds to support adult evening high schools have been forthcoming. However, even with this added help we are still only serving approximately 19,000 adult basic education and 12,000 adult high school students. *It is therefore evident that if any appreciable in-roads are to be made upon the population of 1,379,000 adults in Chicago who lack a high school diploma, much more money will be required than is now available through State and local efforts.*"

From Mr. James H. Fling, State Supervisor of Adult and Veteran Education, Florida Department of Education:

"There still remains a substantial gap within the State of Florida in meeting the educational needs of our one and a half million adult population who have less than a high school education. While the State and counties are providing funds in an attempt to meet the needs of our adult population, there remains much to do on the high school level.

"Federal funds are now restricted to the needs of those adults having less than an eighth grade education, while a high school diploma is more and more becoming the minimum educational achievement for obtaining social and economic independence in our highly technical society. *Utilizing state and local funds, one out of ten high school diplomas issued in Florida annually is earned by an adult. However, with additional funding help this ratio could reach possibly two and three out of ten diplomas issued annually.* This can only be accomplished, however, through additional funding support to supplement the state and local effort to expand the number of full-time day and evening adult education centers, counseling and library services, and training for teachers and teacher aids.

"Since Florida has become more involved with adult migrants and adult basic education, increased demands from these programs have exerted extreme pressure upon the high school completion program leading towards the diploma. This pressure can only be relieved and the necessary educational services provided through additional funding assistance."

From Mr. Troy C. Bond, Director, Dallas Evening Schools:

"Dallas had 1448 adults enrolled during the 1966–67 school year in academic courses leading toward completion of a high school diploma. These people must pay tuition fees in order to make the program self-sustaining.

"I am quite confident that this number of enrollees would be doubled at least, if we could get financial assistance in this area. We do have means by which we can get financial help for vocational and trade courses, but *the area that really suffers because of a lack of money is the academic area leading toward the high school diploma.*"

From Mr. Jim L. Knotts, Director of Adult Education, Louisiana State Department of Education:

"The Louisiana state legislature has appropriated state funds in the amount of $275,000 for high school adult education for the past few years. During 1966–67, we had 2,642 students who received a high scrool equivalency diploma through this program, and had over 8,000 students enrolled. We have a waiting list of peopel wanting to enroll in classes. *Louisiana could use 1.5 to two million dollars for the high school program alone.*"

From Dr. William J. Johnston, Assistant Superintendent, Adult Education Branch, Los Angeles City School Districts:

"In Los Angeles, 2,655 adults graduated from 28 city adult schools last June; 976 of these graduates were former Los Angeles City day students. The undereducated adult can best be encouraged to return to school if a modest subsistence allowance is available. *A "G.I. Bill" for adults might be called a "Good Investment" program for our country.*

"We are told a high school education is required for employment in each of 71 occupations in which a manpower shortage exists. Adults who lack a minimum of a high school education cannot be expected to assist their youngsters progress through school; to motivate them toward continuing and successful school experiences; or to share in their discoveries of the world in which we live."

"From Dorothy M. Woodey, Administrative Assistant, Baltimore City Public Schools:

"*In June of 1967, almost 500 adults in the Baltimore area received high school diplomas.* For these persons, who have expended years of work, energy, and in many cases, sacrifice of personal comfort, this is truly remarkable. But, contrast this with the statistic from the 1960 census; that *with a population in the Baltimore area of over a million, the average median of education received by adults, 25 years and over, is 8.9 years, and the number shrinks pathetically.*

"The reasons that adults fail to respond to motivation for further education are myriad: apathy, lethargy, embarrassment, economic and financial situations are but to name a few. But these same people are the "Here and Now" of our destiny. They are parents, neighbors, voters and operators of motor vehicles. As educators, it is up to us to insist that they have the best of equipment to meet today's demands for living, today. And the most vital element of that equipment is education; the ability to read, to write, to think and to cope.

"Were funds to be made available a whole new concept of education for adults could be established. Each person could be encouraged on a non-stigmatized, "face-to-face," "advise-me" basis, to pursue that phase of continuing development which he most needs. Centers should offer a "theory-experience" practical curriculum rather than the stereotyped courses provided for children and youth; since adults cannot hope for the luxury of "unlimited time" that naturally and normally is accorded to youth. Such things as comprehensive libraries; pertinent, informative films (in self-operated booths); lectures presented in a down-to-earth manner with free distribution of expository pamphlets; a come-and-go basis according to individual time schedules in these tuition-free centers would tend to motivate many more persons to associate themselves with the forward thrust in *self-improvement through education.* Following today's addiction to "letter" identification, this might well be designated as *SITE.*"

From Mr. Lawrence E. Koehler, Consultant in Adult Education, Bureau of Adult Education, California State Department of Education:

"THE EDUCATIONAL NEEDS OF ADULTS IN CALIFORNIA

"*1960 Census*

" 'In California 8,868,907 adults are 56.4% of the State's total population of 15,717,204.

" 'Of these adults 164,332 or 1.9% have not completed any schooling and 505,049 of these adults, 5.7%, are not functionally literate and have not progressed further than the fourth grade. These constitute the uneducated. Of these adults 1,300,056 or 14.7% have not graduated from elementary school and *4,300,379 of these adults, 48%, have not graduated from high school. These constitute the under-educated.*'

"In addition to the educational needs of the adult undereducated, adult education serves substantial numbers of youth who have been high school dropouts in order that they may continue their education, as well as receive occupational training.

"A STATISTICAL SUMMARY OF ADULT EDUCATION IN CALIFORNIA

"The reports submitted by adult schools, high schools, and junior colleges to the Bureau of Educational Research on October 31, 1966, indicated that 633,192 adult students were enrolled compared with 599,195 in October, 1965, an increase of 5.7 percent. High school and unified districts provide for 60.1 percent of adult education class enrollments and junior colleges provide for 39.9 percent of the enrollments.

"The number of adults who completed graduation requirements for certificates and diplomas increased 11 percent over 1965. Adults in California received 1,211 elementary certificates and 15,980 high school diplomas during the 1965–1966 school year. In 1966–1967 there was a total of 849,529 enrollments in 20,266 classes for adults and adult enrollments of 75 percent or more in 8,310 junior college graded classes."

From Mr. Fred Small, Bureau of Adult Education, Massachusetts Department of Education:

"Within the public schools of Massachusetts each year approximately 25,000 adults enroll in adult education classes. Some 5,000 enroll in correspondence

courses and some 5,000 in high school equivalency programs. The annual budget for these classes reaches almost one million dollars, all of which comes from state and local funds with the exception of a Civil Defense program operating from a federal subsidy of approximately $100,000. The adult basic education program also serves approximately 5,000 persons annually with a one half million dollar budget. The adult civic education program involves about 3,000 people each year with a budget of $250,000 coming from state and local sources.

"Throughout the state of Massachusetts a great demand is being experienced for additional adult education programs, and the only way this need is going to be met at the present time is through additional financial help from the federal government."

From Mr. Robert H. Coates, Director of School Extension, The School District of Philadelphia:

"The Division of School Extension, School District of Philadelphia, operates a standard evening high school that during the 1966–67 school year enrolled more than 5300 adults and out-of-school youth in courses leading to regular high school diplomas. In September 1967, by stretching limited local resources still further, the School District will open a second standard evening high school in the West Philadelphia section of the city in response to public demand for increased facilities of this type. Lack of funding prevents the planned establishment of two other standard evening high schools in sections of the city where surveys reveal large scale adult interest in such programs.

"In addition to standard evening high school programs, the Division of School Extension capitalized on liberalized state requirements for the high school equivalency diploma (in Pennsylvania, the Commonwealth Secondary School Diploma) by establishing, out of local resources, 23 centers throughout the city in which more than 3,000 adults and out-of-school youth were intensively tutored during the 1966–67 school year, in preparation for the Tests of General Educational Development leading to this diploma. Local resources are also employed to finance the TV High School of the Air that, this year, is being telecast 5 days a week from June through November. This program is specially designed to help viewers prepare for the GED tests. A related tutorial service is available for viewers at an easily accessible high school during the summer months.

"Six special GED tutorial programs are currently operating 3 evenings a week throughout the year for more than 350 public assistance recipients who have successfully completed adult basic education programs.

"All of these programs are financed from local and state resources. They do not meet the tremendous and growing need for high school completion programs in this community. *Improved Adult Basic Education legislation providing federal support for high school equivalency programs that may operate throughout the year, expanded standard evening high programs, innovative programs designed to assist adults toward high school completion, and the development of curriculum materials for use with adults in high school completion programs is desperately needed if we are to expand our help to the vast numbers of undereducated adults living in the inner city areas,"*

From Mr. Donald G. Butcher, Chief, Adult Education, Michigan State Department of Education:

"There has been state aid for adult high school classes in Michigan since 1964. Prior to that there was an average charge of from $20–$30 per class for the adult who wanted to take a high school credit course. During the 1961–62 school year there were 31,334 adults enrolled in high school classes, in 1962–63 there were 32,000 adult enrollees and in 1963–64 there were 30,746 adult students participating in high school classes offered in 49 school districts throughout the state.

"The figures began to change radically after state aid became available in 1964–65. That year's adult enrollment of 36,000 jumped to 51,777 in 1965–66 and to 65,000 adult enrollees during the 1966–67 school year just ended. Whereas only 49 school districts offered adult high school classes in 1963–64, this number had increased to 90 school districts during the past school year. In 1963–64 only 21 school systems had one or more full-time adult education administrators. *Michigan figures prove conclusively that local school districts will offer high school education classes for adults primarily to the extent to which state or federal financial help is available.* Until now the help has come exclusively from the state government. There remains a tremendous need for high school programs for adults. Unless the federal government funds these programs for adults or

the state government increases its subsidy to the local school districts, these needs will continue to be only partially met."

Mr. Chairman, the statements submitted by these 12 adult educators are typical rather than atypical. They reflect the uneven growth of adult education programs across our country. Although progress has been made by some cities and states in providing high school programs for adults, this is little more than a beginning. Last year the enactment of the Adult Education Act was a milestone in the history of adult education. So far this Act has made possible programs in adult basic education extending to the eighth grade level. We ask this Subcommittee to consider amending the Adult Education Act of 1966 so as to provide high school education programs for the millions of American adults who have never completed high school. We thank you for the opportunity of presenting our case for your thoughtful consideration.

Mr. NEFF. That concludes our testimony. We appreciate your letting us appear before the committee.

Senator YARBOROUGH. I am very much interested in this adult education program. I think that there are losses of opportunities not only when the child drops out, but it doesn't end if the person drops out in the fifth grade and then, say, gets up to 18 and he is too old to learn. Time won't permit it. I have known too many people in my own life——

Mr. NEFF. Yes.

Senator YARBOROUGH. I know some in World War II that dropped out of school not through lack of intelligence, but through lack of desire to work hard and so far as people knew hadn't done any gainful work in 20 years, just living on their wits, went to shipyards, starting doing beneficial work as welders in World War II, in aircraft factories and shipyards; they felt it was their patriotic duty to work. Some of them ended up after the war as foremen and continued to work and then got jobs in standby jobs that didn't require as much precision.

It is amazing what a person can do at what is considered retirement age in many fields.

Mr. NEFF. Yes.

Senator YARBOROUGH. Thank you very much, Dr. Neff, for your contributions on so much, calling our attention to the Hartke bill. I am for that, of course, am supporting it, and I will continue to support adult education at all levels wherever I can in whatever bills and in whatever form.

Mr. NEFF. Thank you.

Senator YARBOROUGH. The next witness is Dr. James E. Russell, secretary of the Educational Policies Commission of the National Education Association.

Dr. Russell, you were bypassed for a moment, thinking that you were a resident of Washington, D.C. I am told that you not only don't have Potomac fever, that you live up in that rarefied atmosphere of the Rockies in Denver.

STATEMENT OF DR. JAMES E. RUSSELL, SECRETARY, EDUCATIONAL POLICIES COMMISSION, NATIONAL EDUCATION ASSOCIATION

Mr. RUSSELL. I am one of those lucky people who has a residence there, and I was there before I came here.

Senator YARBOROUGH. Thank you.

You may put your statement in the record in full and proceed. (The prepared statement of Dr. Russell follows:)

PREPARED STATEMENT OF JAMES E. RUSSELL, SECRETARY, EDUCATIONAL POLICIES COMMISSION, NATIONAL EDUCATION ASSOCIATION

I am James E. Russell, Secretary of the Educational Policies Commission, a Commission of the National Education Association of the United States and the American Association of School Administrators. For convenience I will refer to the Commission henceforth as EPC. I am appearing at your request to provide some background information about EPC and its work. I am not speaking on behalf of either of the parent organizations.

EPC was established in 1935 to make recommendations on matters of policy in education. Several features of the EPC and its work deserve comment.

First, the Commission is autonomous. No one gives it orders or controls its decisions. Its recommendations are those of the persons who happen to be members as of the time of issuing a statement. Specifically, neither NEA nor AASA can control the recommendations of EPC. In fact it might appear to a neophyte to go the other way. The EPC has repeatedly proposed changes in major traditional policies and seen these changes later followed by one or both of the parent organizations.

Second, EPC has been on the scene for many years and has earned the right to be heard. Many of the monuments of educational policy of the last thirty years are to be found among its publications.

Third, its membership is drawn from leadership in education of all types and all levels. Some of the nation's most distinguished educational and public leaders have served as members. These include: Dwight D. Eisenhower, when he was President of Columbia University; James B. Conant; James R. Killian, Jr.; and Ralph J. Bunche. The Chairman of the Commission today is Stephen J. Wright, President of the United Negro College Fund.

Fourth, EPC works in an atmosphere free of deadlines or constituent pressures. It is never pressed to say something as of any given moment. Its effort is instead to say the right thing. Time is not a factor.

Fifth, EPC has a staff. This means that its program has continuity and it has access to persons whose full-time job is to think, to ponder, to pursue implications wherever they lead. EPC has a tradition of encouraging its staff to act independently and to pursue questions in terms of research and information of experts, rather than to restrict themselves solely to the stated views of members. Thus the staff is frequently in the position of presenting recommendations to the Commission.

Thus, EPC is a sort of conscience of American education. It is free from the limitations of most educational agencies. Most educators operate within limits imposed by time or money or loyalty to a specific constituency. EPC has time, it has money, it has freedom to seek the best answers it can find without having to satisfy special interests.

The foregoing are among the reasons why EPC generally rates a hearing in the educational world, and they account for the specific reasons why I am here now.

We are considering amendments to the Elementary and Secondary Education Act of 1965. EPC played a part in the enactment of that statute and it may be well if I review a few relevant facts before stating present points of view on the matter before you.

The question of the federal relation to education has occupied the EPC from its inception, as indeed it has occupied educators from the time of the constitutional debates. In 1945, EPC published a statement entitled *Federal-State Relations in Education*, written in cooperation with an agency of the American Council on Education. This statement proposed two concepts which came to characterize the major traditional thrust of the organized profession of education on this question:

1. That the aid be general rather than categorical.
2. That it be administered through an agency independent of the political arms or activities of government.

These two concepts were reiterated in many subsequent documents and formed the basis of more legislative proposals than any of us care to recall.

In 1959, EPC published a further statement on this question under the title *National Policy and the Financing of the Public Schools*. This statement de-

veloped an exposition of the intimate connection between the fate of the nation and the performance of its schools. It showed how great was the deficit between what was needed and what was available to finance the public schools. It demonstrated that the gap could not be closed without massive federal assistance. It continued older policies, however, in asking that this massive federal aid be general in nature, without federal controls, and be administered independently of political activities.

In the 1960's, EPC began to shift its ground on the question of general vs. categorical aid. It had a project under way which emerged under the title *Educational Responsibilities of the Federal Government.* As this project developed, it came to hinge on this question, and, in a moment which for EPC was historic, the Commission voted to recommend that educators seek categorical aids. Not that these aids were best—they had serious defects—but they were obtainable, and it would be politically wise, expedient, and prudent to settle for the possible while trying to make up for the problems associated with categorical aids. These were said to be of three types: (1) too little money, (2) for too few purposes, (3) at too high a level.

This statement was an important contribution to the decision of the NEA that year to alter its major resolution on this subject so as to incorporate the idea of expanding and improving categorical aids, and this decision by NEA had a significant bearing on the ESEA, for it made possible—indeed I think it mandated—NEA's support of ESEA. The resulting legislation, which was supported fully by NEA, did in fact aim at overcoming the weaknesses cited by the EPC; that is, it put more money for more purposes at lower levels.

One fundamental reality made ESEA possible, and this reality is so important that it should be in the minds of every legislator who acts on these questions. This reality deals with the relation of public and parochial school finance. Over the years good educational bills have failed in the federal legislature because they, in one way or another, enabled those opposed to them to combine forces into a majority in one or both houses. There have been three major categories of opponents:

1. Those to whom governmental spending is the big issue, irrespective of the purpose of the spending;

2. Those concerned to perpetuate racial segregation and who fear that federal support of education will lead to federal intervention to force desegregation; and

3. Those whose major concern is the parochial schools, mainly Catholic, and who regard the use of federal moneys to make the public schools better, hence more attractive, as a form of double taxation.

Of these three groups, the first two are unlikely to be moved by rational arguments showing the necessity of federal support, nor are they open to political compromises. They have long persisted in regarding their major concerns as of greater importance than such matters as education. The third group is different, however, for it is genuinely concerned with the quality of education and it seeks good solutions. The genius of the ESEA lay in its offering a way for this third group to combine with the public school people in support of a bill.

The ESEA has its problems, of which I shall speak in a moment, but it is a good bill. It is a great monument in the history of American education, and it should be preserved in a form which will continue the great and effective amalgamated support of both the Catholic group and the public school group. Any provision which would divide these two groups would guarantee the ultimate defeat of the bill itself and would be an educational disaster. It is for this reason that those who agree with the proposals of the EPC would have to offer vigorous opposition to any amendment which would generate the sort of opposition that would lead to the loss of the Act. I realize that none of the persons who are offering amendments to this bill intend its demise. But if the Catholic groups turn in opposition, it will set us back twenty years by destroying the delicate balance which has made possible this massive infusion of federal support.

The essential step today is to continue the progress made under ESEA and to get on ahead from there. This brings me to a point on which I hope to place major stress. It is widely thought today that the EPC, in its latest statement entitled *Federal Financial Relationships to Education,* has proposed to amend ESEA in a way parallel to the amendment originally offered in the House by Representative Quie of Minnesota. I therefore especially appreciate the oppor-

tunity to speak to this point for it is simply not so. The entire thrust of the latest EPC statement on the subject is based on the assumption that the flow of massive federal funds is *established*. When the statement was written, none of us thought it possible that the very survival of ESEA might be in question. We assumed that it would continue and that the question was how to improve it. To that end we offered some suggestions based on a point of view about how the federal government would relate to education in an ideal situation.

The advantage of looking at things from the ideal point of view is that it enables you to chart directions of movement. It does not tell you how to proceed or even where to go, but it does enable you to evaluate various proposals in terms of whether or not they are carrying you in desirable directions.

We said, assuming the continuity of ESEA, that the desirable direction of movement was towards the general and away from the categorical. We then offered some suggestions for next steps. All these suggestions were postulated on the assumption, I repeat, of the continuation of ESEA and were in major part designed to allow for inadequacies in that program, while at the same time moving in the direction of the desired general support.

Of the three proposals we made, the one we put first and most enthusiastically was expansion of federal financial support to education of all children of ages four and five. The educational reasons for extending the school downward for all children are compelling, but this form of education tends to be offered mainly to the under-advantaged or the over-advantaged. The main body of the American people do not have these advantages. As of three years ago only some eleven percent of American four-year-olds were in any kind of formal educational program, and nearly all of these were in private nursery schools. Here is an opportunity for the federal government to opt for a "category" of aid which would have a "general" effect; that is, it would be in support of the whole program at that level rather than some of its parts.

I urge that the Congress give careful thought to this proposal, for it could be of gigantic benefit to our nation, but I realize that this sort of consideration is not germane to the question immediately before us, which is the continuation of the ESEA.

The statement of the EPC entitled *Federal Financial Relationships to Education* had been distributed individually to all members in Congress. That statement was intended by its authors to follow on the readoption of ESEA. We do not want our opinions interpreted as in opposition to that readoption, nor should they be construed as in support of the amendments offered by Representative Green of Oregon. They are not necessarily opposed to the Green Amendments unless those amendments will have the effect of endangering the bill itself, in which case we would be firmly in opposition.

We believe that further progress in federal financial relations to education depends on maintaining the progress made to date. Thus we urge readoption of ESEA either unamended or amended only in minor detail.

There was one other major area of policy for federal relations to education treated in both of our most recent documents. These had to do with the organization of the Executive Branch of the federal government for the discharge of its educational responsibilities. We think that the existing system of organization is manifestly inadequately. It seems to us unsound to place the top federal educational official in a subordinate echelon. It seems to us wrong to scatter educational activites across the federal landscape. We accept the judgment of knowledgeable people that education is so important that every federal agency should have its own education branch. But we think that is no excuse for creating circumstances in which local schools and colleges—and it is in the localities that the educational job is done—have to deal with a host of federal agencies and officials. It can do no good for education to require that local education systems have aggressive administrators in order to participate in federal programs. Those schools and colleges that have the best administrators are in the typical case those that are already best supported.

If a federal program is intended to make up for unequal financial advantages, it becomes self-defeating if its administration is proliferated among federal agencies. We think that simplification and centralization of administration and greater reliance on intermediate levels of government, especially state agencies, are important improvements. We think that the major shift at the federal level should be the establishment of a Department of Education, headed by a Secretary who would sit in the President's Cabinet.

This would effect the needed centralization and coordination, put education in an appropriate echelon of visibility and political significance, and provide access to the world of political reality which education must enter if it is to participate in federal programs in the billion dollar range.

Further, we criticized the present setup because of inadequacies in the system of providing educational advice to the Congress. We thought that a Department of Education would serve to attract educational leadership and to reduce the present cacophony of educational voices. I am sure that I do not have to tell members of this Committee of the advantages of providing unified advice to the Congress. The question rises whether the Congress should organize for itself an advisory committee to provide educational advice. The EPC reports refer to the problem, but they do not propose any specific solution. In any event, we think that the critical problem of advising government is not on the Legislative side of the ledger, but on the Executive side, for it is there that program is designed, and the fine adjustments and dovetailing of plans take place. We would press, therefore, for reorganization on the Executive side as the first priority.

If you have any questions, I shall do my best to reply.

Mr. RUSSELL. I am James Russell, secretary of the educational policies commission, a commission of the National Educational Association of the United States and the American Association of School Administrators.

I am speaking here as chief of the staff of this commission and not on behalf of either of the parent organizations, and I will be brief.

The Elementary-Secondary Education Act is an important educational monument. We had thought of it as necessarily enduring. There are dangers, however, that it might not endure and we think that as you consider amendments to this act you must consider also the effect on the future of the act itself. If you look at the history of Federal aid to American education, you will find that most bills that have been introduced across the years have failed, and they have failed because there were three principal groups who combined to oppose them, each for reasons of their own, and who, when added up, became a majority in either one or both Houses.

One of these groups is a group who will oppose spending irrespective of its purpose. Another group is a group which is concerned principally with maintaining segregation.

I don't contend that either of these groups are going to join in support of the bills that we are supporting.

The third group, however, is different. This is the group whose primary concern is parochial education, and who view Federal support of the public schools as a menace by which these schools are made more attractive and hence more competition for them, and hence they view it as a form of double taxation.

The genius of the ESEA is that it enabled this third group to shift and support an excellent bill. The ESEA has its problems, but it is a good bill. It is a great monument in the history of American education, and it should be preserved in a form which will continue the great and effective amalgamated support of both the Catholic group and the public school group.

My concern to be here today is that the recent report of the educational policies commission entitled "Federal Financial Relationships to Education" has been interpreted by some as in support of a sort of an amendment like that originally introduced by Representative Quie, of Minnesota, in the House, which would, in my judgment, seriously and this might result in the ultimate defeat of the bill itself.

It would in effect transfer the Catholic group back to the opposition, and this might result in the ultimate defeat of the bill iself.

I feel that the EPC statement is not properly interpreted, if it is understood to be in support of this sort of an amendment.

The entire thrust of the latest EPC statement on this subject is based on the assumption that the flow of massive Federal funds to the schools is established. It is necessary that it be established, it is necessary that the ESEA be reenacted and continued, and that, then, we consider what are the desirable directions of movement that we would then recommend, assuming ESEA's continuity.

We considered this question in our latest report. We wrote the report from the point of view of what would be an ideal relationship between the Federal Government and the public schools. We said this would be general.

We now have categorical aid. We have categorical aid for, among other reasons, that the education community decided to accept it on the grounds that this was a way that you could get a massive flow established, and the intention was that it should be established, and then improved.

Improved how?

Improved by moving in practicable steps toward general aid.

We made three proposals to this end. This one that we put first and most enthusiastically was that there be expansion of Federal financial support to education of all children of ages 4 and 5. This seemed to us to be in effect a category which could have a general effect, and the values to the United States could be immense.

I hope that the Congress will consider very seriously this suggestion.

There was one other major area of policy for Federal relations to education. This had to do with the organization of the executive branch for the discharge of its educational responsibilities.

We think that there are things wrong in the system as it operates. It seems to us unsound to place the top Federal educational official in a subordinate echelon. It seems to us wrong to scatter educational activities across the Federal landscape. It seems to us wrong to put school systems in a situation in which they must have very capable administrators in order to be clever enough to participate.

This has the effect of being self-defeating if the purpose of the bill is to equalize educational expenditures and opportunity.

We think that the major shift at the Federal level should be the establishment of a Department of Education, headed by a Secretary who would sit in the President's Cabinet.

Further, I was asked to comment on the question of the adequacy of the system by which educational advice is presented to the Congress. We thought that there needed to be some system by which the advice, the number of competing voices, could be reduced. We did not propose a specific solution to this problem, but we thought that it ought to be looked at.

I should say, however, in all candor, that we do not think that the problem is at the level of urgency of that that has to do with the organization on the executive side. So if we are going to assign a first priority, we would put it on the reorganization of the executive branch for its educational responsibilities.

I thank you for the opportunity to appear here.

If you have any questions, I would be happy to try to answer them.

Senator YARBOROUGH. You have many stimulating thoughts in a few pages, and we appreciate this statement.

I just regret that the entire subcommittee didn't hear it, Mr. Russell.

I am kind of woolgathering over your last sentences, though, about thoughts all coming from the executive side, which I very seriously doubt. The Teacher Corps idea came from the legislative side. It originated the GI bill. There would have been no GI bill for these 5 million already discharged veterans, suffering one of the greatest educational drawbacks in the country because of service they were rendering to the people, all involuntarily, which made it worse and this was purely from the legislative side.

Many of these innovations have come from the legislative side, but the general experience here is that if somebody in the legislature offers something it is killed by the executive until the next year so they can introduce it and say it is their idea. This has happened over and over with legislative improvements.

I would say it took this whole spectrum of legislative improvements in the last 6 years, more ideas have come collectively from the Congress than from the executive.

Mr. RUSSELL. I agree. I am not talking about sources of the ideas.

(Discussion off the record.)

Mr. RUSSELL. It seems to us that you have to have a simplification of the administrative structure itself. You have to have a different system of centralization, and you have to have greater reliance on State and local agencies.

Senator YARBOROUGH. I agree with you there. We can't hire enough. We could hire enough bureaucrats to run all over the State and the Nation in every district and be supervising everywhere, but we already have over 3 million civilian employees of the Government, and you take four people to a family, that would be 12 million people, which would be about 6 percent of our population, and that doesn't include the over 3.5 million in uniform that we have with this great proliferation of the armed services. That, altogether, would mean with the armed services and the other, counting their families, would be on the Government payroll at this time, with civilian and military personnel both, we would have a minimum of 6.5 million people, and these are younger, so we won't count five people as the average American family. If you count four, I don't know the new math, if you will pardon my delay here, that is 26 million people and that is 13 percent of the whole population, so if you add a big enough army to administer all of this and ignore the States and local school officials, the problems will be worsened, in my opinion.

I want to say this, since you are representing this group of civilians, such distinguished names as Dr. Conant, President Eisenhower, and others. I do not regard the American educational system as a failure.

Even before I came here supporting Federal aid to education, I tried to teach at one time, taught briefly in the University of Texas Law School and I have been very earnest and a hardworking advocate for this Federal aid at all levels. I didn't do that because I thought our educational system was a failure. I think it is the best in the world,

because we have more people going through college, more through high school, a higher percentage of any other country. But it had great weaknesses. Many of the people were not being reached. The dropout rate was bad.

The fact that it was weak, that teachers weren't being paid enough and needed strengthening doesn't mean that we defer our relationship to the world. We are the richest Nation on earth. We ought to have a much better educational system. We ought to be able to bring this educational opportunity to every child in America.

That doesn't mean, in my opinion, that when we came in here and started on this Federal aid—some said as the Secretary of HEW the other day we should remake American education.

I want to see how he intends to remake it first before I want to destroy the present system.

The present system has served America well. It has brought it to the pinnacle of world wealth and power. I think that too much we rely on materialism, too much on power, too little on the affairs of the human existence, but at least it has brought us this far, and I don't think it has been a failure.

This session will be recessed until 9 :30 tomorrow morning.

(Whereupon, at 12 :30 p.m., the subcommittee recessed, to reconvene at 9 :30 a.m., Wednesday, August 16, 1967.)

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