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APPALACHIAN READING SURVEY.

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The impact of ESEA Title I programs on reading competencies of elementary and secondary students in Northern Appalachia was examined. Fourth- and seventh-grade reading programs were assessed through samples taken from 74 different schools involving 1,429 students in 16 school districts within the Northern Appalachia area of Maryland, Ohio, Pennsylvania, and West Virginia. Divergent environments were represented. Research procedure included (1) pretesting and post-testing with Gates Reading Survey and an especially designed Reading Attitude Inventory, (2) on-site classroom observations, (3) interviews with teachers, students, and administrators, and (4) examination and cataloging of materials purchased as well as techniques used in their classroom implementation. Findings, conclusions, and implications of the research are listed. (WB)

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Appalachian

Reading

Survey

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APPALACHIAN READING SURVEY

**The Impact of Title I, ESEA, Activities on the
Reading Competence of Elementary and Secondary
School Learners in Northern Appalachia**

June 1968

The research reported herein was performed by Pennsylvania State University pursuant to a contract with the Office of Education, U. S. Department of Health, Education, and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Office of Education position or policy.

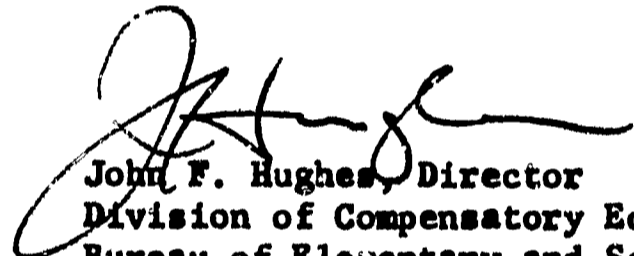
Division of Compensatory Education--John F. Hughes, Director
Bureau of Elementary and Secondary Education, Office of Education
U.S. Department of Health, Education, and Welfare

FOREWORD

This study examines the effects of Title I federally-supported programs on the reading competencies of elementary and secondary school pupils in Northern Appalachia.

The research was conducted by the Pennsylvania State University under contract with the U. S. Office of Education. Dr. Myron Coulter, formerly of Pennsylvania State University and now Assistant Dean of the College of Education, Western Michigan University, directed the research.

Because of limited funds, we are unable to reproduce the entire report. This is a condensed version.



John F. Hughes, Director
Division of Compensatory Education
Bureau of Elementary and Secondary
Education

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I. INTRODUCTION

Traditionally, Americans have been known for their sympathy toward unfortunates and for their good-natured willingness to help the underdog--the more so where children are involved. But while we have, as a nation, pitied physically or mentally handicapped children and recognized their disabilities as barriers to normal progress, we have been slow to acknowledge social, cultural, educational handicaps. Public Law 89-10, the Elementary and Secondary Education Act passed in April 1965, was and remains an attempt to recognize multiple types of disadvantage. A social-action measure, its intent is to help citizens overcome circumstances and environment which prevent them from entering the American social and economic mainstream.

Of the 1.3 billion dollars appropriated for the 1965 ESEA, over one billion dollars or approximately eighty percent was assigned to Title I, "Financial Assistance to Local Educational Agencies for Special Educational Programs in Areas Having High Concentrations of Children of Low-Income Families." These funds were distributed to individual state departments of education for assignment to local school districts. In order to receive allocations local education agencies were required to submit detailed program proposals for state education department approval. The ESEA places minimal restrictions upon the type of program eligible for support; local school personnel have been encouraged to be effectively innovative in formulating special opportunities for disadvantaged students.

Though Title I procedures provide for built-in evaluation of each local project, the ESEA is rightly concerned with state-wide and regional impact. For this reason--and because local evaluation methods vary widely from program to program--neutral agencies across the country undertook broad areas of study in order to determine comparative effectiveness of particular projects and the total impact upon a special area. Such was the purpose of the research supported by Contract OE 6-99-162 and completed by a team of professors and research assistants in the College of Education, The Pennsylvania State University.

Phase I of the evaluation was conducted in eighteen local education agencies in Maryland, Pennsylvania and West Virginia. These projects began early in 1966 and concluded in June 1966.

Phase I, therefore, assessed short term programs active within the first six months of Title I implementation. Information gathered from these projects was reported in the research group's Interim Technical Report, October 1966.

Phase II of the evaluation included sixteen local educational agencies in Maryland, Ohio, Pennsylvania and West Virginia. Beginning in September 1966 and concluding in June 1967, programs evaluated during this phase were primarily school year length. Therefore, this report represents an assessment of the first full school year under Title I and is specifically concerned with the effectiveness of various projects upon the reading competence of elementary and secondary pupils in Northern Appalachia.

II. STATEMENT OF THE PROBLEM

The overall purpose of this evaluation is to determine whether Title I federally-supported local education programs are having significant impact upon the reading competencies of elementary and secondary school students in Northern Appalachia. The term "reading competencies" includes multiple factors which gave rise to a series of questions pertinent to this evaluation:

1. Were there significant differences in reading skills achievement between economically disadvantaged children who received Title I instruction and those who did not receive special instruction?
2. Were there significant differences between the reading progress of public and non-public school children who received Title I supported instruction?
3. What was the relationship between the socio-economic structure of the school attendance areas and the reading progress of Title I children?
4. What was the relative effectiveness of specialized reading instruction for elementary and secondary students?
5. What were the relationships between the organization for instruction and reading achievement?
6. Was there a relationship between the classroom behavior of Title I teachers and the achievement of their students?
7. What were the reading attitudes of economically disadvantaged children? Was there a relationship between reading attitude and reading achievement?

It has long been established that children who come to school from impoverished home backgrounds where education is not held in high regard are not on an equal educational footing with children whose pre-school lives have been nourished with books, travel and parental enthusiasm for learning. Even though low family income cannot be equated with a low priority for education, the fact remains that children from low-income families rarely enjoy the advantages of the richer experiential background which can be provided by families with substantial earnings. This, in essence, is the basic assumption which led to the enactment of PL 89-10 and which also supports this study.

The selection of children's reading competencies as the prime concern of this project was justified by two major factors. First, the vast majority of local education agency proposals submitted to the various state departments of education were seeking support to improve reading and language facility for their children. Second, reading competence is basic to all school progress and lack of this competence has been identified as a significant deterrent to academic success at both the elementary and secondary school levels.

III. METHODS AND PROCEDURES

The Study Sample

This report includes Title I Reading Programs in operation between September 1966 and June 1967. The subjects were 716 fourth-grade and 713 seventh-grade students in sixteen school districts located in Maryland, Ohio, Pennsylvania and West Virginia. The 1429 students were distributed as follows:

| Grade Four | | Grade Seven | |
|------------|------------|-------------|------------|
| Public | Non-Public | Public | Non-Public |
| 664 | 52 | 697 | 16 |

As each local educational agency received program approval from its state education department, it set about the task of identifying its Title I students needing special reading help. Cumulative guidance records, preliminary testing, and teacher conferences helped local Title I leaders identify project participants. Because so many districts in each state chose reading as a primary target, the PSU research team faced a mammoth task in selecting specific projects for study. For both Phase I and Phase II, a professor or a team of professors visited individual state education departments to read and analyze reading projects as quickly as they were approved by state officials. General information and specific data for the many projects that exhibited research potential were studied further by the research group in conferences at the university. To insure a varied sample, the research team considered geographical distribution, population density, economic and social milieu, difference in project organization and educational approach before deciding upon school districts appropriate to the study.

The districts finally chosen are situated in divergent environments ranging from sparsely populated rural areas of 1200 persons to a relatively large city of over 84,000 persons and are diffused throughout the Northern Appalachia area assigned for the study. Major income sources are day labor, agriculture, and industry. Organizational patterns for reading projects vary from

individual remedial instruction to small group work to laboratory drill and self-pacing combinations. Instructional personnel vary from those with wide classroom experience (and self-preparation or workshop-preparation for a local district's specific Title I project) to those with recent undergraduate training but limited classroom experience (and minimal personal or local workshop preparation). Some districts using teacher-aides were purposely included in the study.

Finally, the research team included in its selection, projects which it considered to have high, moderate, and low potential and in this way avoided bias that could have resulted from concentration on programs exhibiting either promising or dubious chances of success.

National norms served as a comparison basis for the evaluation. A total of 105 Title I students were full-time parochial school children and provided a further comparative base.

Baseline and Terminal Data

Gates Reading Survey

Prior to or at the beginning of Title I instruction in the early months of the 1966-67 school year, all economically qualified children in the study sample were tested with the Gates Reading Survey to determine levels of competency in speed and accuracy, vocabulary, and comprehension. Testing was conducted in addition to any pretesting planned by local school districts in order to collect data from a single source, thereby obviating the need to transform scores from several sources.

At the conclusion of individual instructional programs, alternate forms of the Gates Reading Survey were administered to the students who had been pretested. Pre- and post-tests were conducted by the local educational agencies with tests provided and scored by the Penn State evaluation project.

Attitude Assessment

A child's attitude toward reading is a vital factor in his development of reading tastes and abilities. Of particular interest to the evaluation team was the nature of economically

and educationally disadvantaged children's reading attitudes. Since no suitable attitude inventory existed for use with such children, the inventory, How I Feel About Reading, was developed by Dr. Myron Coulter and Dr. Robert Lathrop.

Observation and Interview Procedures

Throughout Phase II of the research project, visits were made to each local school district. With one exception, the project director participated in conferences with Title I officials in every local agency under study. In Maryland observation and interview visits were directed by Professor Lathrop; those in West Virginia were supervised by Professor Bliesmer; those in Ohio and Pennsylvania were administered by the project director. In every case initial on-site evaluations were made by the professor assigned to the individual state; then research assistants and professors participated in interim and final information gathering visits. Along with the usual classroom, lab or general project observation, researchers often conferred informally with students and teachers. Further, research assistants completed an on-site inventory of books, materials, facilities for every local project participating in the four state study in order to give the team as comprehensive a picture as possible of each local plan.

These procedures, followed throughout the course of each local project, enabled evaluation team members to compile information with which to assess the nature of instruction, the materials being used by remedial reading classes, and the prevailing socio-economic conditions of the communities. Later, these factors were utilized in arriving at an overall subjective evaluation of conditions and progress for the various local programs.

Taxonomy of Instruction and Materials

In order to provide a basis for comparing students' progress with the organization for instruction, each local program was classified by (a) the size of instructional groups and (b) the type of teacher provided. The following illustration represents the classification model.

Model I. Classification of Instruction

| | | TYPE OF TEACHER | | |
|------------|-----------------------------|-------------------|--------------------|------------------|
| | | Regular Classroom | Untrained Remedial | Trained Remedial |
| Group Size | Tutorial | | | |
| | Small Group (2 to 10) | | | |
| | Large Group (11 or more) | | | |

In a similar manner the instructional materials used in the various programs were classified by type and use.

Model II. Classification of Instructional Materials

| | | TYPE | |
|-----|-----------------|-------------|------------|
| | | Independent | Systematic |
| USE | Self-Pacing | | |
| | Directed-Pacing | | |

Independent - prescriptive materials used as the result of diagnosis. Supplementary to basal reading materials.

Systematic - basal reading materials, or others with a predetermined sequence of skill development.

Self-Pacing - instructional sequence determined by individual skill diagnosis.

Directed-Pacing - instructional sequence determined by manuals, skillbooks, textbooks; i.e., by materials rather than student diagnosis.

Analysis of Data

The original design of the study indicated a statistical analysis of the standardized test data using covariance technique. An inspection of the pre-posttest differences, however, indicated that no sophisticated analysis of the data was required.

The Attitude Inventory results were studied by means of frequency distribution and mean scores by groups. The inventory was item analyzed to establish its reliability with economically disadvantaged students. These data are also reported below.

Finally, data were examined for differences among school attendance areas, grade levels, Title I and national norm scores, and public and non-public school subjects.

IV. RESULTS: DATA AND OBSERVATIONAL REPORTS

The Data

The Gates Reading Survey is designed to yield three subscores (Speed and Accuracy, Vocabulary, and Comprehension) which in turn may be combined into a fourth overall total score. The Gates manual provides nationally referenced norms for the three subtests and the project statistician has constructed special norms of total test scores from the Title I students participating in this study.

The Reading Attitude Inventory, How I Feel About Reading, is designed to measure attitudes toward (a) reading in school, (b) reading outside school and (c) general reading interest areas. The instrument uses a simple agree-disagree format concerned with "feelings." The final section consists of a subject topic list from which the student is asked to select his reading interests.

Characteristics of Participating School Districts

The sixteen school districts whose projects were evaluated within the Northern Appalachia areas of Maryland, Ohio, Pennsylvania and West Virginia were situated in divergent environments, rural, urban, or suburban in nature. Census density ranged from a sparsely populated rural area, 1,200 persons, to a County district of 110,000 including a relatively large city of approximately 84,000 persons. Many districts were situated in areas of dramatic population decline between the 1940 - 1960 census years.

Seven districts were located in rural areas where the chief employment sources were agriculture and day labor; six districts were in small towns (two of these centered in rural areas) where primary income sources included factory work as well as agriculture and day labor; the remaining two districts were situated in fairly industrialized cities of approximately 69,000 and 64,000 persons with income essentially from manufacturing and day labor.

In summary, the school districts in this study were typically located in rural areas and small towns (populations, 5,000 - 16,000) with income from agriculture and unskilled or

semi-skilled day labor. Many families in all districts were receiving some form of welfare assistance to augment low incomes. Typically, unemployment was appreciable, three to six times national percentages. Within each school district studied, seven to sixty percent of the total number of families in residence qualified for Title I aid.

Comparison of Change in Reading Achievement Scores, Grade 4

Reading Speed and Accuracy, Grade 4

A comparison of the pretest-posttest change scores, class by class, indicates that median change for the 57 individual fourth grade classes studied was between three and three and one-half months, compared to national norm groups. Although modest when considered in absolute terms, the reader should bear in mind that the pretest achievement of many of these classes was below the normal fourth grade level. Taking only those classes whose initial reading level was "below grade" (less than 4.0) the median gain for 32 classes was seven months with 14 classes gaining nine or more months of reading speed and accuracy.

Somewhat unexpectedly a number of the classes, although presumably intended for disadvantaged readers, had pretest means at or above "grade level." There were, for example, six fourth grade classes who had pretest means of 5.0 or higher, indicating that before the study began these classes were reading at approximately the same rate of speed as the fifth grade students used in the national norming sample. Interestingly, three of these six classes had gains up to one year while the remaining classes had net losses in reading speed up to one year. Overall these six classes had a median gain of zero. Because changes of one or two answers could alter the grade level score by three to six months, little significance can be attached to changes (or lack thereof) of classes who started the study a year or more above expected grade level. Among classes beginning the school year substantially below grade level, mean changes of a year or more (in some cases more than two years) must be regarded as very encouraging.

Among the fourth grade classes who began the school year at or near the national grade level, the overall impression is that a few of the programs were extraordinarily successful in increasing reading speed and accuracy, producing mean gains of up to two and one-half years. Other classes starting out near the fourth grade norm actually regressed in speed and accuracy during the course of the study.

Vocabulary, Grade 4

For some reason, unexplained by the data, the fourth grade classes represented in this study were relatively close to the expected pretest norm of 4.0. Only nine classes had mean vocabulary scores more than one-half year below grade level. In each case the classes below grade level in vocabulary were also below grade in speed and accuracy.

Overall the median gain was approximately one-third of a year. Furthermore, the gains were relatively consistent across classes with 49 of the classes gaining one-half year or less and only eight classes gaining eight or more months. Among the classes showing the greatest gains in vocabulary many showed only modest gains in speed and accuracy. With a few exceptions gains in vocabulary seemed to bear little or no relationship to gains on Section I of the test.

Reading Comprehension, Grade 4

The reading comprehension score showed the least amount of change with 21 out of the 57 class means either remaining unchanged or indicating a net loss over the period of study. Another 20 class means indicated gains of up to one-half year. However, of the fourth grades studied only four revealed mean gains of as much as one grade level.

Total Score, Grade 4

The comparison of pretest-posttest changes for the overall total score is complicated by lack of national norms. The internal norms prepared from the study data indicate that there was a net increase in median posttest scores from 44 to 51. This seven point increase if uniformly distributed among the three subscores would represent a median growth of approximately three to four months of reading achievement. As has been pointed out, however, gains were highly variable from class to class with some groups showing gains of up to 20 points and other classes finishing the year with zero gains or even net losses.

In order to help interpret the gains in reading achievement made by particular classes, some attempt will be made to describe the characteristics of high and low change programs in terms of the observational data collected during the study.

Comparison of Change in Reading Achievement Scores, Grade 7

Reading Speed and Accuracy, Grade 7

Median change for the 29 individual seventh grade classes studied was approximately 4 months compared to national norm groups. Increases in reading rate and accuracy of one year or more were recorded by 11 of the 29 classes. Several classes apparently had programs directed toward this particular dimension of reading skill since 8 of the 29 schools showed increased reading rates of more than two years. At the other end of the continuum, 9 classes showed no improvement in reading speed and accuracy and, in some cases, actual loss of a year or more. The remaining 12 classes recorded modest increases of two to six months.

Although the classes were chronologically picked from the seventh grade, pretest reading level for approximately half was around sixth grade. In 3 classes, reading level was two full grades below seventh grade. At the other extreme, 4 classes were a year or more above grade level when pretested.

Vocabulary, Grade 7

As a group, the 29 seventh grade classes showed no improvement in the Vocabulary subscore as a result of the reading program. A few individual cases reflected gains of a year or more while others lost a year or more. Most classes fell in a middle category showing little change in scores from pretest to posttest vocabulary levels. Classes that began their projects with students above grade level in vocabulary, almost without exception, showed decreased performance on posttests; classes that began below grade level, with minor exceptions managed improved posttest scores. The interpretation of the investigators is that little or no change was produced in vocabulary skill as this skill is reflected on the Gates Vocabulary section.

Comprehension, Grade 7

Very modest increases overall were found with the Comprehension subscores at the seventh grade level. The majority of gains were within the two to four months range; only 4 classes showed increases of eight or more months. As in Vocabulary, the Comprehension scores at the seventh grade level indicated slight regression for classes beginning projects with students above the average, slight increases for classes with students below

the average. There is no evidence as reported in the Gates Comprehension subscore, that the seventh grade projects as a whole produced any increase in reading comprehension. At best, gains for individual classes were modest.

Total Score, Grade 7

One might expect from regression theory that students starting out substantially below grade level in general performance would tend to show the largest gains while those at or above grade level on the pretest would tend to show smaller gains. This would be expected if the experimental programs had little or no effect on reading levels or if differences in scores were statistical artifacts rather than true changes, gains or losses. However, from a pedagogical standpoint one might hypothesize that students who were initially low on the pretest would make the smaller gains; those initially reading well would continue in their above average performance. Neither pattern was clearly confirmed. While students who began programs after pretesting below average made impressive gains and others who began by pretesting above average regressed slightly, the largest gains tended to be made in classes beginning near the seventh grade level. This mixed result seems to the investigators to confirm what observation reports noted early in the study: certain programs at the seventh grade level were especially designed for the improvement of reading speed and accuracy. As indicated by other subscore data; however, changes in reading speed and accuracy bore little or no relationship to improvement in Vocabulary or Comprehension.

Achievement of Public and Non-Public Students on Gates Reading Survey

Three of the sixteen projects studied during Phase II included one or more non-public school classes. These totaled eleven of the seventy-four individual schools and served 68 of the 1429 students under study. Thus, only a small number of the pupils in the study sample were full-time members of non-public schools.

Detailed comparison of scores achieved by public and non-public school students reflect small differences which are not considered statistically significant. Individually, these schools did reflect some differences of interest.

Two of the three districts working with non-public school youngsters included fourth grade pupils. In one district the public school students showed greater gains than the non-public students; in the other, non-public school pupils outgained public school pupils. In the one district where the non-public school students' performance was higher, **three non-public** schools were among the highest-gaining of all fourth grades in Speed and Accuracy. However, two of these schools were also among the lowest-gaining of all fourth grades in Reading Comprehension.

All three districts working with non-public school youngsters included seventh grade pupils. In the **district** which recorded the gains mentioned above - non-public school students showed greater gains than their public school counterparts. Again, this district recorded gains in three schools, two of them schools other than those indicated above as achieving high fourth grade gains. The seventh grade pattern further repeats the fourth grade in that these three non-public schools were among the highest-gaining of all seventh grades in Speed and Accuracy. Notably, however, one school was also among the highest-gaining schools in Reading Comprehension. The seventh grade pattern is further differentiated from the fourth grade in that two non-public schools from this same district registered among the lowest-gaining schools, one in Vocabulary and one in Reading Comprehension. Neither school was among those recording the high gains in Speed and Accuracy or Reading Comprehension mentioned above.

It is worth noting that in the one district which reported non-public schools outgaining public schools:

1. seven of the eleven schools participating in the evaluation study were non-public schools;
2. five of the seven non-public schools scored among the highest fourth or seventh grade achievement gains for all districts in the study;
3. highest gains were in the Speed and Accuracy sub-test area though one school also scored well in Reading Comprehension;
4. two of the five schools listed above as showing substantial in Speed and Accuracy scored among the lowest districts in other subtest areas, one in Vocabulary and one in Reading Comprehension;
5. both schools referred to in 4. above were fourth grade sections.

Differences noted here will be examined further in the remainder of this section and in Section V, Observational Reports.

For the two districts in which public school students outgained their non-public school counterparts, the following should be noted:

1. one district included eleven schools in the research study, eight public and three non-public; the other district included seven schools, six public and one non-public;
2. except for one school in each district, all public schools in these two districts scored in the median-gaining areas;
3. both exceptions listed in 2. above were on the fourth grade level, one in Vocabulary and one in Reading Comprehension.

In summary, comparative scores in projects involving public and non-public school students yielded slight differences in the majority of cases. One interesting exception reveals a district which recorded sizable gains in Speed and Accuracy frequently accompanied by concomitant lower scores in Vocabulary

and Reading Comprehension. Overall, the evaluation team does not consider differences between public and non-public student performance to be meaningfully significant.

Comparison of Population Area and Student Reading Achievement

Comparing pupil attendance area and pupil achievement reveals several interesting factors. The six districts attaining highest gains in the various subtest areas in fourth grade testing are comprised of two city, two town, and two rural districts. Among the highest gaining seventh grade districts are one city, two towns, and two rural areas.

The high gain fourth grade districts ranged from the lowest populated area in the study, 1,200 inhabitants, to the two generally industrialized cities mentioned above. Almost the same was true for the seventh grade with the range encompassing identical extremes--from the smallest area in the study to one large city. Interestingly, the one city to record high gains in both fourth and seventh grade is also the district in which parochial school students generally outgained public school students within the study. It is worth noting that the only other district to record top gains at both fourth and seventh grade levels was one of the low population rural areas.

Among the four districts scoring the lowest gains in the various subtest areas at the fourth grade level are two towns and two cities. The six lowest scoring districts in the seventh grade include one city, four towns, and one rural area.

Fourth grade low-gaining districts ranged from small towns, 3,500 and 11,500 populations, to the same city which recorded high fourth and seventh grade subtest gains and a county district of 110,000 including an 84,000 inhabitant city. Again there were some close parallels at the seventh grade level. Here the lowest scoring districts ranged in population from the small town of 3,500 mentioned above to the same city whose non-public school subscores placed it among the highest gaining districts in both the fourth and seventh grades. Interestingly, as was noted in the earlier discussion of comparative public - non-public scores, this city district achieved high Speed and Accuracy scores in enough of its parochial school classes to place it among the highest of all districts in that subtest area. However, a few of these same classes also recorded low gains in Vocabulary or Comprehension.

Another notable factor arises with the recognition that town districts overwhelmingly dominate the lowest scoring seventh grade districts and comprise two of the four lowest in fourth grade. On the other hand, in fourth grade projects, no school organized on a consolidated rural district pattern was among the lowest scoring districts in any subtest area of the Gates Reading Survey. An attempt to account for this occurrence will be made in the Discussion section.

Relationship Between Geographic Distribution and Student Reading Achievement

Though selection of projects to be studied in each state reflects a representative geographic pattern, it is not possible to identify any one state's programs as clearly superior in terms of achievement gains. Indeed, the obvious and very desirable variety in planning and implementation of individual projects within a particular state mitigates against such conclusions.

All four states were proportionately well-represented among the highest achievement districts; no single state showed a disproportionate advantage over the others.

Comparison of Organizational Patterns and Reading Achievement

Within the sixteen districts in the study during Phase II, it was not possible to clearly determine common organizational designs. To designate any particular program as entirely small-group or large-group centered would be an injustice. All districts organized in small groups at one time or another but also individualized instruction within groups so that tutorial situations frequently resulted. As will be discussed later in this report, districts utilizing teacher-aides were especially effective in conducting group sessions and tutorials simultaneously.

Though no individual type of district organization--county plan, city district, or consolidated rural area--attained consistently higher gains in achievement, rural schools were conspicuously absent from low achieving groups. No rural district placed among the lowest fourth grades; one such district appeared among the lowest on the seventh grade level--on the Speed and Accuracy subscore only.

Elementary school organization for the fourth grade and junior or senior high school organization for the seventh grade did not seem to be an important factor since no striking differences in gains emerged. However, there did seem to be a tendency toward slightly larger groups for seventh grade instruction where a few districts operated with group sizes of eleven to fifteen. Indeed, one district utilized groups of twenty in its seventh grade sections and managed to score among the very highest Speed and Accuracy gains for all seventh grades. This district effectively combined a laboratory emphasis with its group work while using teacher-aides with commendable efficacy.

Comparison of Instructional Materials and Reading Achievement

All schools in the study had received or were receiving abundant and varied materials. These ranged from multiple levels of basal reading textbooks to the most elaborate programmed reading skillbooks and mechanical equipment.

From test data, guidance files and teacher records, and other available information, most projects employed a diagnostic basis for individualizing instruction. Then, usually, teachers chose materials to meet individual students' needs; often teachers personalized instruction by preparing their own materials for specific purposes.

Greatest gains in fourth grade achievement were recorded by districts using the eclectic approach described above. One district, did use basal materials as a sequential part of its program; however, in totality its project featured a large measure of teacher prepared materials used very effectively in a non-sequential approach.

Similarly, top seventh grade districts used non-sequential materials selected after diagnostic testing. Among these projects one district used the same procedures it followed at the fourth grade level. Another district combined non-sequential, highly individualized instruction with a strong reading laboratory program sometimes using sequential materials. Students in this district scored exceptionally high in Speed and Accuracy.

In summary, most districts used non-sequential materials in a manner prescribed by students' needs. Though some districts used basal texts, teaching manuals, and textbooks for skills instruction, learning sequences usually were based upon diagnostic

information rather than rigid adherence to the sequence prescribed by a text. Two districts using sequential materials as a sizable part of their plans placed among the highest gaining projects. Since no single district in Phase II of the study relied primarily upon a sequential, directive program, no distinct comparative correlations between materials and achievement were noted.

Analysis of Attitude Inventory and Its Relationship to Gates Survey Scores

The inventory, How I Feel About Reading, was developed by the research team after no suitable published instrument for measuring attitude toward reading could be located. The instrument uses a simple agree-disagree format, the first part concerned with "feelings" about reading in school. The final section of the inventory consists of a list of subject topics about which the student is asked to indicate his reading interests.

Fourth Grade Analysis

Scores of the fourth grade students ranged from 5 to 55 with a pretest mean of 36.7 and a standard deviation of 8.6. The internal consistency reliability coefficient (K-R-20) was .84 with a standard error of measurement of 3.4 points. The interpretation of this last statistic indicates we can be confident that if a parallel sampling of items were administered, two-thirds of the students would be predicted to have a score within 3 to 4 points of their original score on this test. Less formally, the inventory has sufficient precision that students with scores 5 to 6 points apart on this inventory may safely be assumed to have different attitudes toward reading.

Eight of the classes showed mean gains of five or more points whereas only two classes showed losses of this magnitude. Although the median gain was only one to two points, individual classes showed gains up to twelve points. Encouragingly, virtually all classes with below average pretest means increased during their Title I projects. Significant losses in attitude score occurred in only two Title I classes.

The fact that significant shifts in attitude were recorded in several classes suggests jointly that the inventory is capable of detecting such shifts when they occur and that under appropriate conditions reading attitude at the fourth grade level can be altered substantially. The reader should keep in mind that the data reported here represent class averages not scores of individual pupils where even more dramatic increases can be noted.

Seventh Grade Analysis

As in the previous analysis, the scores covered a range of approximately 50 points with a mean of 37.2 and a standard deviation of 8.8. The internal consistency reliability of the seventh grade scores was .84 and this is highly encouraging for a first tryout of the reading attitude survey.

Only two classes made what may be regarded as major shifts in attitude, one in the positive direction, and one in the negative direction. The remaining schools showed gains or losses which were within expected shifts due to instrument unreliability. In general, classes beginning their projects above the mean in attitude score tended to regress slightly--downward toward the mean. Classes initially below the overall mean regressed upward on the posttest. This would be the expected finding where no real shift in attitude had occurred.

The reader should bear in mind that the inventory used in this study does not presume to measure attitude toward school in general even though judged valid for assessing attitude toward reading. It should also be remembered that by the seventh grade many attitudes toward reading have become so solidified in children that any program for change must be considered as a long term project: positive results may not manifest themselves until some later date.

Relationship of Attitude Data to Gates Survey Scores

A random sample of 90 4th grade students was drawn and a product moment correlation computed between the Gates Survey score and the attitude toward reading score. A similar comparison was made of Gates scores and the number (breadth) of reading topics reported as interesting.

The correlation between the Gates Survey score and the number of positive comments about reading in and away from school was not statistically significant ($r = - .06$). Combined with the reliability of the inventory (already described) this finding suggests that the instrument is measuring a dimension of attitude toward reading which is relatively independent of reading achievement.

Interestingly, the sample drawn suggests that there is a low negative relationship between reading achievement and the number of topics (breadth of interest) reported as interesting ($r = - .27$). The research team is not prepared to interpret this somewhat unexpected finding except to note that the relationship did vary from school to school and the low negative value may be the result of pooling data across widely differing schools.

Observational Reports

A significant part of the Phase II evaluation plan called for in-depth observation and interview visits to school districts participating in the study. As outlined in Section III, Methods and Procedures, the individual professors supervising research activities in each state completed initial and final--and in some cases interim--visits to a representational cross-section of the schools studied. Graduate assistants, specialists in reading, tests and measurements, and curriculum--all with experience in classroom teaching--examined and inventoried materials, checked facilities, noted instructional procedures and helped generally with observations and interviews during the tenure of each project. All research team members assisted in gathering economic, social, and educational data and information, then participated in conferences evaluating report material gathered from the four states cooperating in the study.

Seventy-four individual schools contributed test data for evaluation; observation and interview visits were made to forty-seven of these schools. Through a central office log, care was taken to insure that a representative sampling of schools would

be visited: in each local district one-half to two-thirds of the total number of schools involved in the Title I Reading Projects under study were selected as observation/interview sites.

During many months spent visiting these Northern Appalachia schools, team members were constantly impressed by the overall commitment, concern, and cooperation evidenced in each district, in every state.

Consolidating information and data from forty-seven schools, in sixteen local districts, within four states has revealed the following profile of Title I Reading Programs in the study:

1. Pupils. The fourth and seventh grade students whom researchers observed in classrooms or reading laboratories and talked with in and out of class situations were often personable, usually helpful, always friendly. No small number, however, seemed somewhat forlorn, somewhat resigned to a less than successful school experience. In some pupils apathy signalled resignation; in others, restlessness betrayed hostile feelings born in an essentially alien environment.

Particular school districts varied in their methods of choosing Title I students almost as much as they did in the character of their programs. Commonly, Title I project participants were chosen on bases of financial qualification--as determined by law--and deficiencies in reading skills. Primary sources of information upon which selection was based were:

- a. guidance or counselling records where such existed; administrator, social worker or teacher observation where guidance records were scant or nonexistent;
- b. administrator or teacher nomination on basis of school performance;
- c. recorded reading deficiency--one year or more behind grade level--though one district used six months below grade level as a guideline;
- d. diagnostic analysis through specific reading and intelligence testing prior to project initiation.

Informal conversations with pupils prior to or shortly after their beginning Title I projects frequently revealed limited experiential backgrounds. That normal, moderate, middle-class experiences with travel, movies, popular magazines, children's books, public libraries were not among the advantages enjoyed by many of these pupils was readily substantiated. As specialized Title I plans provided academic or cultural enrichment, perceivable changes in attitude and manner often occurred: in some notable instances, alteration of self-image resulted in amazing changes which transferred from Title I instruction to the regular classroom.

Though Title I students attended special sessions usually necessitating their release from an assigned class, a study period, or an activities hour--one to five times per week--rarely did they appear to lose status. To the contrary, some gained prestige by leaving crowded or dreary classrooms for special treatment each day. If regular classes were held in a drab room, a one or two room rural structure, or in any school with limited facilities, the physical newness of Title I accommodations and materials transferred to a freshness of spirit and interest. Where special classes were conducted in an attached portable classroom, there was a distinct concomitant increase in a participant's stature among his peers.

Such excitement frequently permeated Title I projects almost from the moment of their inception. With contagious enthusiasm, teachers and pupils often reacted to a complex of forces in ways rendering personal changes in student behavior infinitely more meaningful than statistics can reveal.

2. Teachers. During Phase I teachers' verbalizations were rated on the Withall Social-Emotional Classroom Climax Index; and, as a group, Title I teachers proved to be overwhelmingly learner-centered.

Originally, it was anticipated that the more learner-supportive the teachers' statements, the greater would be students' reading skill progress. Without teacher-centered instructors in the sample, findings in this area were inconclusive during Phase I.

Since Phase II included some Phase I teachers and since new Title I teachers were again strongly learner-supportive, the evaluators replaced formal Climate Index ratings with extended interview and observation sessions.

That so few teachers exhibited directive or teacher-centered tendencies is not surprising considering certain factors germane to recruiting and selection:

- a. the vast majority of projects accepted teacher applications on a voluntary basis; no arbitrary assignments seem to have occurred;
- b. every effort was exhausted to attract experienced teachers, preferably with reading preparation or remedial reading experience;
- c. some administrators invited outstanding teachers to apply and thereby accept the challenge of new programs;
- d. administrators drew upon young but, experienced teachers who had proven effective in the past but had retired from teaching to marry and raise a family.

Despite the considerable efforts of school administrators and individual Title I directors and the generally admirable response of teachers, effective recruiting remained a serious problem in many districts. (See the "Discussion" section of this report.)

The research team had the opportunity to observe and interview sixty-four teachers throughout Phase II of the study. All sixty-four were actively involved with one or more Title I classes. For classification purposes, each teacher was designated as:

- a. a regular classroom instructor--non-degree or degree preparation for regular classroom teaching; limited or no workshop training in reading;
- b. an untrained remedial reading instructor--non-degree or degree preparation plus remedial reading training and experience but no graduate training in reading;
- c. a trained remedial reading instructor--degree preparation plus graduate training in reading.

Using this classification, the sixty-four teachers provided for Title I classes (those observed and interviewed for the study) exhibit the following preparation:

Taxonomy of Teacher Preparation

| <u>Regular Classroom</u> | <u>Untrained Remedial</u> | <u>Trained Remedial</u> |
|--------------------------|---------------------------|-------------------------|
| 30 | 9 | 25 |

These teachers varied in experience from none to thirty-nine years with a considerable number over the ten-year mark. Formal preparation ranged from non-degree programs to Master's Degree plus thirty credits. Though many more trained remedial reading teachers were involved in Phase II than in Phase I, it is still obvious that more than half the Title I teachers were not formally trained to assume the positions they held. In part, many districts attempted to provide the additional training needed through reading workshops or specialized in-service sessions for potential Title I teachers.

Generally, the sixteen Title I projects examined in Phase II provided help for teachers through:

- a. intensive two day to two week workshops prior to the projects' beginnings--with or without continuing in-service meetings;
- b. periodic in-service training throughout the school year.

In either case, specialized help in teaching reading was usually offered by university consultants or qualified directors of reading programs from the local school district itself or a nearby system. A few districts augmented this instruction with sessions by child development, curriculum, or tests and measurements specialists.

As part of its in-service or workshop plan, a district utilizing teacher aides invariably provided special orientation sessions for them. Again, the scope and content of these programs varied greatly but generally followed the pattern of short intensive

workshops reinforced with periodic meetings thereafter. Eight Title I projects of the sixteen in the study employed teacher aides.

3. Materials. One must recognize how sparsely equipped were many Northern Appalachia Title I schools prior to federal aid for specialized instruction. Remedial help for some pupils in a number of these districts dates from the initiation of Title I projects; for others, these projects meant the first concerted effort to help was now possible.

While the initial tendency of many districts was to emphasize acquiring books, machines, and other materials necessary for reading instruction, Phase II saw limited expenditures of this kind, and increased concentration on instruction.

The relationship between achievement and materials will be cited later, but it seems appropriate to mention those teacher-devised materials commonly used. Many teachers observed by the research team seemed particularly able to structure homemade materials for stimulating competition or motivating reading. Though this is commendable in itself and though researchers observed many effective uses of "reading caterpillars" (a new segment is added for each story read) or "automobile racetracks" (a car for each student records his progress in numbers of books read), by and large teachers did not manage innovative marriages of content and technique. For the most part materials were commercially purchased and used in traditional and sometimes pedestrian ways.

4. Facilities. For at least seven of the sixteen districts studied in Phase II, providing classroom facilities for Title I projects became a difficult problem. Not only because some schools in particular sectors of a district were overcrowded, but also because so many Northern

Appalachia school districts have been without funds necessary to expand buildings or erect new ones, finding extra classrooms was sometimes impossible. Administrators and teachers showed commendable ingenuity in these situations. Title I classes or laboratory sessions were observed in an abandoned church, sectioned-off corners of classrooms, or cafeterias, school medical rooms, principals' offices, converted bookrooms, and refurbished basement rooms. In many cases these new quarters had been efficiently adapted to small group needs. However, a significant number of sites assigned for Title I instruction could not offer optimum conditions for the kinds of teaching planned and so sorely needed. A smaller number were inadequate enough to seriously inhibit effective instruction. Particularly disconcerting were cafeteria or sectioned-off accommodations where noise and bustle disturbed learners.

When rural districts with one or two room schools faced housing dilemmas, they sometimes turned to portable metal classrooms to add combination Title I library and instructional facilities. In every instance, these additions proved tremendously effective. Whether it was necessary to erect a portable classroom on a front lawn, in playground or parking lot--each of these was utilized by some district in the study--the attendant flexibility this extra space gave to each program was significant.

But curriculum flexibility is not the only advantage utilizing such structures seemed to offer. The psychological lift, the peer stature, given many Title I students by their association with new facilities has already been mentioned. However, it seemed to the researchers that the educational stimulus engendered in back country locations where "newness" is so rare--and hardly ever connected with a school building--sometimes encompassed the school community in its entirety. Where parents were caught up with Title I endeavors, this stimulus appeared especially valuable.

A welcome and unpredicted factor in facility planning for a third of the districts studied was the degree in which school personnel worked to improve equipment or accommodations and to save money. When commercial equipment seemed exorbitantly priced, some schools turned to Industrial Arts students and teachers, to janitors and maintenance men. As a result homemade library or lab tables, bookcases, indeed an earphone and tape relay system were provided Title I projects at nominal cost. This, too, in its own way, nurtured an involvement with education in some places where there had been none before.

V. DISCUSSION

A cautionary word about the limitations of standardized testing: Achievement tests are, by their very nature, special occurrences which place considerable strain upon many students. Beyond this factor such mechanical variables as techniques used in administering tests or variables in pupils' willingness to guess rather than omit particular items complicate the most astute interpretations. Also, as Harold Bligh indicates, recent "empirical research suggests that further consideration be given to the differentiation of test norms" because norm scores do differ "with respect to sex or locale." (Review of Educational Research, February, 1965) It is not surprising, therefore, that the best tests devised do not have the capacity to assess all the qualities which make a good or poor reader.

Frequently, measurement psychologists are less prone to draw expansive inferences from the devices they develop than are teachers, administrators or laymen. One should doubly emphasize this point when considering experimental programs. Variables in student background and motivation, in teacher personality and emphasis, or in approach to the Title I reading program and to measurement itself demonstrate that no single factor can be responsible for achievement or change in achievement. Indeed, complexities involved in new programs--which often provide startlingly different environment, or result in an altered social-emotional classroom climate--deserve at least as much interpretation as do raw reading scores. When youngsters experience reading instruction in ways they never faced before, tremendous flux in aspiration and inspiration levels seems inevitable.

It should, then be quite apparent that the research team discredits the "all or nothing fallacy," the line of reasoning insisting that tests must tell the whole story or they tell nothing at all (see Henry S. Dyer, "The Possibility of Producing Useful Proficiency Tests in English," PMLA, May 1966). Rather, the Gates Reading Survey and the Reading Attitude Inventory provide important partial information; together they are useful barometers to aid assessment of the impact achieved through Title I reading projects. Observations of instruction,

interviews with teachers, and common sense indicate that a considerable amount of the progress being made by Title I students was not reflected by achievement performances. Instances of growth in self-confidence, concept formation, independent reading and improved work-study skills were attributed directly to Title I instruction, yet were not specifically accounted for by achievement tests. It is not unlikely that the most valuable dividends occurring from a student's participation in a Title I reading program may be these cumulative gains in peripheral areas. Such latency in growth factors has been commonly recognized in experimental programs.

Characteristics of Title I Instruction

In any observational and interview report of this nature, inevitably various areas will intertwine. And so it has been with the researchers' reports on pupils, teachers, materials, and facilities found in the preceding section. In a sense all these reveal the general character of Title I instruction in schools observed within Northern Appalachia; therefore, the intent in this section is to offer both summary and specific observations. In this spirit the following seem most relevant:

- a. School Districts used a variety of guidance and testing sources to identify those among their economically qualified pupils who needed special reading instruction.
- b. Students tested, observed, interviewed for this study exhibited a distinct cultural and academic malnutrition.
- c. The Title I projects observed provided facilities, materials, teachers and specialized instruction in locations where remedial reading help was limited or non-existent in the past.
- d. Fewer than half the teachers involved in Title I instruction had received formal training in remedial reading as defined by the research group; however, various in-service programs attempted to aid Title I teachers.
- e. Eight projects within the sixteen participating in the study utilized teacher aides who received orientation and instruction in varied degree.

- f. The cumulative effects inherent in districts historically unable to replace old or outmoded school plants made finding adequate Title I space a serious problem. A wide spectrum of ingenious but sometimes inadequate arrangements evolved.
- g. Generally, experiences with portable classrooms proved quite promising from physical, curricular, and morale viewpoints.
- h. Most instruction observed was traditional by nature--phonovisual chart drills, reading aloud, vocabulary games. Though researchers encountered considerable curricular innovation, imaginative materials, not imaginative instructional techniques, seemed the rule.
- i. A noticeable strength in four of the sixteen projects was the value wrought from well-planned and executed field trips. The trips enlarged students' experiential worlds; experiences were frequently reinforced in reading class.

As indicated earlier, Title I projects in the Northern Appalachia area faced serious and complex problems in staffing and in procuring adequate facilities.

School districts which have historically operated on minimal budgets cumulatively pyramid their deficiencies to a point where long range programs of aid are the only solution. Thus schools that have had to postpone adding new classrooms, expanding curriculum, creating libraries, hiring remedial personnel--and have had to postpone these improvements endlessly--too often have learned to accept doing without. No one expects much in the way of special help for slow students; few miss the chance to use a library that never existed. No one misses the smaller sized class since all classes have always held thirty-five or so; soon no one plans projects requiring conference rooms or reading labs--all this fades into plans for someday. But "somedays" fail to materialize.

Recruiting teachers, for many districts, proved to be the major barrier to getting Title I projects underway. In fact, some districts had program and facilities ready months before it was possible to procure an instructor. Obviously,

where general conditions for teaching are not attractive, it is not going to be easy to hire teachers even when money is available as it had not been before. School districts located in isolated rural or mountain areas, those in significantly depressed areas, those with facilities sadly outmoded for many decades could not attract reading teachers simply because they had money enough to hire some for the first time.

When Title I teachers were lured from classrooms where they had performed admirably as regular teachers, Title I's gain was sometimes the regular curriculum's loss: it was not always possible to replace such teachers with efficient, certified personnel. In these instances, one could note considerable Title I achievement, but measuring the effect on regular instruction--if such measurement were possible--might modify the total picture.

Among those projects recording considerable gains, however, it is interesting to note that:

1. teachers were about evenly divided, in preparation for roles in remedial reading, among the trained and the untrained or regular classroom teachers;
2. workshop or in-service training for remedial reading instruction and Title I efforts favored a short pre-program orientation followed by long term, on-going in-service work--usually including bi-monthly meetings. In one district, however, there was an extensive pre-project plan linked to a comprehensive and meaningful on-going, in-service workshop series;
3. the adequacy or inadequacy of facilities or general program conditions seems to have affected teacher performance. For example, in a district where a teacher used regular classrooms for part of each week but hauled mechanical equipment and materials to rural schools offering minimal space and facilities during the rest of the week, a noticeable diminishing of achievement occurred.

While five of the nine districts recording the highest gains in various subscores utilized teacher aides, it should be recognized that a marked increase in using teacher aides occurred in Phase II as compared to Phase I. Further, the same schools scoring quite well in one or more subtest area often fell among the lowest scoring districts in another subtest section. Generally, where one or more areas, Speed and Accuracy

or Vocabulary, for example. were emphasized the other area suffered. This result was obtained without seeming relevance to use of teacher aides or length of in service preparation.

Since the ratio of teacher aides in the programs scoring among the highest achieving districts was directly proportionate to the number utilized in the entire project, the relationship between teacher aide programs and achievement could not be designated as markedly positive. It should be reported, however, that all districts claimed distinct advantages for teacher aide programs. Bases for such claims were founded in teacher morale, teacher-pupil contact hours, teacher planning time. To these obvious and desirable results, the research team would add one extension: when teacher aides assumed routine or mechanical chores for a teacher, the latter frequently was able to execute tutorial or small group instruction in a depth and frequency beyond that of projects where the teacher was responsible for all duties no matter how clerical. Time spent in secretarial chores is hardly time spent as a remedial reading instructor.

Beyond the foregoing, two items pertaining to general instruction deserve comment. These are family and community involvement and field trips as a learning experience.

At best only a few projects made more than cursory attempts to involve parents or community in Title I endeavors. Typically, community or family liaison revolved about resource persons utilized as classroom visitors or consultants to faculty. Sometimes, field trips to historical or business sites brought Title I and community leaders together, but then parents were rarely involved except as chaperones.

The potential inherent in imaginatively planning for parental reinforcement is illustrated by two districts in particular. In one, "Saturday Clubs" used many parents as adult leaders (more than chaperones since parents were encouraged to share their children's experiences) and as instructors. Club groups, a regular Saturday part of Title I, encompassed historical-travel, art, music, physical education, and dancing. These experiences are precisely those culturally deprived children have not had at home. To offer them artistic, travel, sports opportunities--on a regular basis and in conjunction with adult and parental experience--seems to the evaluation team to engender interest and reinforcement in homes where there had traditionally been little. That teachers drew upon these experiences in remedial reading classes in order to expand vocabulary, stimulate reading experience, broaden general understanding was evident to research observers.

This district was extremely successful in bringing parents into rural Title I libraries. This success was achieved, in a gradual manner, by ingenious means. In order to get cultural materials into homes where resources were limited, the district established a lending library for art objects as part of its Title I reading library. Adjustable frames were provided for tastefully chosen reproductions; child or parent could select picture, match it to a frame, take it home on loan. Slowly, parents were encouraged to use the adult reading material in the Title I libraries--books and magazines--on the theory that such exposure, if extended to the home, would help classroom efforts through reinforcement. That the theory proved practical was evident to researchers through the high lending rate for art objects, a dramatic increase in parental patronage of libraries as the project grew older, the relatively high subscore achievement of this district, and--most importantly--an observable change in pupil morale and self-image.

When children whose existence has been unduly narrowed have the chance to see the world as so many middle-class youngsters view it every Sunday afternoon, active learning can replace passive resistance. Only a few Title I projects made outstanding use of field trip possibilities as a planned part of their programs. As defined by the researchers, outstanding field trips means those districts which selected the educationally viable experience over the convenient journey and regularly synthesized reading instruction with experiential background.

Among notable achievements beyond the Saturday Clubs mentioned above, were trips to wild-life preserves, historical sites, cultural events--with close concomitant use of these experiences in class--seem relevant. This district's "controlled group-living" phase where students combined overnight trips to the forest with academic instruction appears to the evaluators to exemplify an innovative spirit all too rare in Title I planning.

VI. CONCLUSIONS AND IMPLICATIONS

Based upon the results of baseline and terminal reading achievement data, observation and interview reports, socio-economic conditions in school attendance areas, and student response to a reading attitude inventory, the following conclusions about Northern Appalachian Title I programs studied during Phase II are posited by the research team:

1. The general impact of Title I projects is considered to have been substantial for youngsters who have previously not been able to make "normal progress" in developing reading skills. If, by normal standards, these programs are still marginal, by previously existing conditions, they are a quantum step forward.
2. Many children making minimal progress--or slowly regressing when compared with normal progress of their peers--responded well to individualized help. A considerable number made discernible progress toward personal reading goals.
3. It is possible, given the appropriate emphasis in the program, to substantially improve the reading speed and accuracy of students who begin the program at average or near average levels. Attempts to improve reading speed of pupils who are initially low produce more modest results. Programs which do not emphasize speed and accuracy may actually show a net loss in this one dimension of reading skill when compared with normal grade-level progress. While speed and accuracy lend themselves to short range improvement, vocabulary and comprehension require long term projects where stages of exposure and reinforcement may be developed.

4. Though rural areas, small towns, and large cities all yielded school districts among the highest-gaining projects, the greater gains, statistically, were made in rural areas. Particularly at the seventh grade level, pupils in rural areas seemed more involved with their schools' projects. Perhaps rural living is less distracting to students this age than small town or city life is to their counterparts in these areas. No rural district placed among the lowest-gaining projects at the fourth grade level.
5. The majority of school districts in this study were making their first concerted attempt at remedial reading instruction as a result of Title I support. Expenditure emphasis in Phase II was upon instructional personnel and curricular improvement through in-service or consultant programs.
6. A significant number of projects--the greatest gaining schools among them--made overt progress in--
 - a. altering demeaning social and economic stature of Title I pupils who had little status in regular classrooms;
 - b. physically changing school environment with improved facilities and creative materials;
 - c. individualizing instruction through small groups, tutorial help, or teacher aide assistance.
7. Over half the teachers employed in Title I programs as remedial reading specialists were not formally trained. The most successful projects provided initial and continuing in-service training for teachers and other personnel, especially teacher aides.
8. Title I projects were strong catalysts in bringing young teachers who had left the profession to raise families back into classroom service.

9. Inability to attract qualified teachers was the single most serious obstacle to setting up effective Title I projects in remote areas served by traditionally poorly-financed school districts. Inadequate facilities was the second most difficult problem.
10. Conventional teaching techniques with little attention to perfecting a union of innovative material and imaginative instruction was the rule rather than the exception in a majority of Title I projects.
11. Under appropriate conditions, reading attitude can be altered significantly at the fourth grade level. Individual pupils recorded some dramatic changes in attitude. Generally, as measured by the Attitude Inventory, seventh grade students' feelings about reading were more deeply set, much harder to alter than those of fourth grade pupils. This implies a serious need for a depth study of Title I programs aimed at the secondary school level.
12. No significant relationship appeared between the reading progress of public and non-public school children who received Title I supported instruction.
13. Outstanding use of field trips adapted to the goals of reading projects was realized by only a few school districts. The role played by broadened experiential backgrounds in relationship to language skills needs further exploration and study.
14. Though two projects achieved unusual success in gaining family and community involvement, attempts to plan such an outcome were rare. One of these projects was, statistically, among the highest gaining of all districts.

VII. RECOMMENDATIONS

In view of the experience of the Pennsylvania State University research team during this study, the following recommendations are offered:

1. that detailed studies be made of Title I programs realizing exceptional success with concurrent provision for disseminating their procedures to schools inexperienced in or realizing moderate success with Title I projects;
2. that overall financial aid to schools for use in programs for disadvantaged students be continued and expanded to enable programs to mature;
3. that continuity in the educational effort to help Title I students be insured through long-term (five and ten year) flexible planning so that poor districts can better attract professional personnel and better initiate meaningful programs without undue financial apprehension;
4. that extended studies of some pupils' post-Title I Project progress be executed;
5. that new and existing Title I programs be encouraged to plan for--
 - a. more involvement of parents and communities;
 - b. a wider and more relevant use of field trips in a general quest for more active learning opportunities for pupils;
 - c. better and more extensive use of consultants in the context of on-going, in-service help for teachers and teacher-aides;

6. that a wholesale reappraisal of the special needs of Title I pupils who are at grade seven and above be undertaken with the express intent of helping them become functional readers in adult America's social and economic mainstream.

There can be no question but that the schools studied are not financially able to assist pupils with special reading problems; without economic support, many Northern Appalachia schools are almost totally lacking in the personnel, facilities, materials necessary to help those who fall behind. Indeed, some of these schools are hard-pressed to run an average program for "average" students. Ignoring disadvantaged children or curtailing programs underway merely places such students in situations where inadequate opportunity puts them continually further behind their peers. That considerable impact can be made by support of programs especially designed to aid these youngsters seems obvious from our study.

SUMMARY

TITLE: The Impact of P189-10 Title Activities on the Reading Competence of Elementary and Secondary School Learners.

PURPOSE: The overall purpose of this evaluation was to determine whether Title I federally-supported local education programs have had significant impact on the reading competencies of elementary and secondary school pupils in Northern Appalachia.

STUDY PROCEDURE: The research team chose to assess fourth and seventh grade reading programs for two major reasons: (1) most proposals submitted for State Education Department approval sought support to improve reading and language facility; (2) reading competence is basic to all school progress and its lack has been identified as a major deterrent to academic success at all grade levels. Study samples were taken from seventy-four different schools involving 1429 students in sixteen school districts within the Northern Appalachia area of Maryland, Ohio, Pennsylvania, and West Virginia. These districts were situated in divergent environments ranging from sparsely populated rural areas of 1,200 persons to a relatively large city of 84,000. Major income sources were day labor, agriculture, and industry. Typically, unemployment percentages were appreciable, three to six times national norms; many families were receiving welfare assistance. Within each school district studied, seven to sixty percent of the total number of families in residence qualified for Title I aid. Research procedure included a four-fold approach:

1. testing with Gates Reading Survey and a Reading Attitude Inventory (especially designed for this project) both before and after each project;
2. on-site classroom observation at varying stages during each project;
3. interviews with teachers, pupils, administrators at varied times during each project;
4. examination and cataloging of materials purchased for each project as well as techniques used in their classroom implementation.

This plan enabled our staff to chart pupil reading progress during the time span covered by each project in the study. Since the Gates Reading Survey scores Speed and Accuracy, Vocabulary, and Comprehension, it was possible to graph gain or loss on an individual and on a project basis in these three separate areas. Furthermore, the Attitude Inventory permitted recording of special changes in pupils' feelings about general (e.g., the amount of time spent in school on reading) and particular (e.g., history) reading areas. Sending professors and trained assistants into classrooms provided first-hand observational and interview data with which to correlate statistical change. In addition, collecting information about the teaching materials bought for each project and the ways these items were incorporated into the overall project plan resulted in a more comprehensive understanding of individual projects and of the total Title I impact upon reading classes.

The research team consisted of three Pennsylvania State University faculty curriculum specialists--in reading, measurement, and English; four graduate assistants--specialists in reading, tests and measurements, and curriculum--all with experience in classroom teaching. When needed, appropriately qualified reading, psychology, and sociology advisors functioned as support personnel.

FINDINGS: The study sample as a total group was not greatly deficient in comprehension ability or in vocabulary; however, the group was considerably behind its peers in basic skills, in speed and accuracy, in attitudes about reading, in ability and desire to articulate ideas. In seemingly similar reading programs, local educational agencies were actually aiming at widely divergent goals. For some, primary intent was to change self-image; others worked toward increased reading speed and accuracy or skill in phonetic identification. Principal findings indicated that:

1. Both fourth and seventh grades recorded total reading gains of approximately four months, after projects of varied length during the 1966-67 school year. Many schools and individuals recorded larger gains in various subtest areas.
2. The most dramatic gains were in the Speed and Accuracy subtest area.

3. No statistical significance was revealed in a comparison of scores for public and non-public school children.
4. With appropriate project emphasis, reading attitude can be altered significantly, at the fourth grade level. Seventh grade pupils attitudes about reading were difficult to change.
5. Most schools were desperately in need of the Title I assistance provided. For a majority with inadequate finances, facilities, and program, these Reading Projects represented a first concerted effort at individual remedial aid for their students.
6. Once federal funds were provided, attracting qualified teachers and finding adequate space were the primary difficulties encountered in setting up Title I programs.
7. Statistically, greatest reading gains were made by fourth grade classes in rural areas. No rural district placed among the lowest gaining projects at the fourth grade level.
8. Commendable progress was made by the majority of districts in individualizing instruction and altering demeaning social and academic stature of disadvantaged students.
9. Over half the teachers employed in Title I projects as remedial reading specialists were not formally trained for those positions. The most successful projects offered in-service training for Title I personnel. Teacher-aides were used by eight of the sixteen school districts studied. Generally, utilizing teacher-aides proved extremely effective.
10. Immediately after Title I funding, most school districts concentrated on purchasing materials; however, Phase II--school year 1966-67--saw strong emphasis on personnel and curriculum.
11. Though imaginative materials, developed commercially or by Title I teachers, were abundant, conventional teaching methods predominated. Instruction was rarely as creative as the situation demanded.

12. Two projects realized outstanding success at involving parents and community. Only a few school districts used field trips as effectively as they could have or related them closely to goals of reading programs.

CONCLUSIONS: Though modest when considered in absolute terms and compared with national norm groups, the general impact of Title I projects upon reading competencies is considered substantial for these youngsters who have previously not been able to make "normal" progress in developing reading skills. Further, it is concluded that:

1. in the majority of cases static conditions or outright regression was arrested as most projects made discernible progress toward individual reading goals;
2. many children making slow progress before entering a Title I program responded well to the individual help and accelerated in overall development;
3. a number of schools which were able to offer adequate reading programs for the first time (due to federal support) realized extraordinary success;
4. it is possible, given appropriate emphasis, to substantially improve reading speed and accuracy in relatively short term programs. Vocabulary and comprehension require long term exposure and reinforcement.
5. the greatest gains were made in rural areas and small towns with average to low general economy;
6. the greatest gains were recorded by school districts which--
 - a. succeeded in altering demeaning social and economic environments;
 - b. within a changed school environment offered new programs replete with efficient but innovative instruction;
 - c. used small groups as an instructional unit (ten or fewer pupils) and met three to five times per week;

- d. provided initial and on-going training for teachers involved in Title I projects.
7. In a few instances individual projects were remarkably effective in involving pupils' families and in improving not only the student's self-image but that of his parents as well.

GENERAL INTERPRETATION AND IMPLICATIONS:

Unquestionably, the schools studied are not financially able to assist pupils with special reading problems; without economic support, many Northern Appalachia schools are almost totally lacking in the personnel, facilities, materials necessary to help those who fall behind. Indeed, some of these schools are hard-pressed to run an average program for "average" students. Ignoring disadvantaged children or curtailing programs underway merely places such students in situations where inadequate opportunity puts them continually further behind their peers. That considerable impact can be made by support of programs especially designed to aid these youngsters seems obvious from our study. In light of its findings, the Pennsylvania State University Title I research team recommends that:

1. detailed studies be made of successful Title I programs with provision for disseminating effective procedures to schools needing this information;
2. financial aid to schools for use in programs of compensatory education be continued and expanded to enable these programs to mature;
3. continuity in educational effort to help Title I pupils be insured through long-term--five and ten year--planning and budgeting;
4. extended studies of some pupils' post-Title I Project progress be undertaken;
5. new and existing Title I programs be encouraged to plan for parental and community involvement, using relevant field trips as active learning opportunities;

6. schools seek consultant aid in preparing ongoing, in-service programs for teachers and teacher-aides with the express purpose of demonstrating creative instructional techniques;
7. a complete analysis be attempted to ascertain special needs of Title I students, grade seven and above, with a distinct purpose of helping them become practical readers in an adult society.