This report is based upon one component of an Elementary Secondary Education Act Title I project in the Lenoir County, North Carolina, public schools for the 1973-74 school term. Programed Tutoring was developed as a supplement to classroom teaching. The three basic skills of reading (sight reading, word analysis, and comprehension) are broken down into sub-skills which are taught by nine item programs. Each of the programs has a series of test and teaching steps which must be followed. The tutoring procedures are simple. They are systematically programed and are specified in great detail so that tutors with limited education and work experience can be trained to a high degree of effectiveness. Of the 461 students enrolled in Programed Tutoring, 228 were first graders, 194 were second graders, and 40 were third graders. Approximately 57 percent of the students were boys and 43 percent were girls; 63 percent were black and 37 percent were white. In 1972-73, through the help of a Home-School-Community Coordinator in each school, a parental visitation program for programed tutorial was expanded. Evaluation reports for the six years during which this component has been in operation show that this activity significantly improved the educational attainment of disadvantaged children in the area of reading. (Author/JM)
PROGRAMED TUTORING IN READING
Lenoir County, North Carolina

A Program
Using Para-professionals for the Individual Tutoring of Disadvantaged Children In Reading

September, 1974
Raleigh, North Carolina

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FOREWORD

School administrative units in North Carolina have been developing and implementing Elementary and Secondary Education Act Title I projects since 1965. Information and experience gained through the years have been helpful to individuals at the local educational agency level in planning more effective projects.

This report is based upon one component of a Title I ESEA project in the Lenoir County, North Carolina, public schools for the 1973-74 school term. Evaluation reports for the six years during which this component has been in operation show that this activity significantly improved the educational attainment of disadvantaged children in the area of reading.

School administrative units, in reviewing the educational needs of the disadvantaged children they serve, may use this project as a guide when they consider their specific requirements and resources.
CONTEXT OF PROGRAM

Lenoir County is 391 square miles in land area with a total population of 55,204. It is largely dependent upon agriculture for its economic support, but in recent years has been developing an industrial base. Industries range from very large plants producing dacron, men's shirts, double knits and meat products, to smaller facilities making a variety of products. The median income of families in Lenoir County is $8,500.

Kinston is the county seat and largest town in the county. It is the trading, transportation and professional services center for a large area of Eastern North Carolina. Kinston is one of the nation's leading Bright Leaf tobacco markets.

There are eleven schools in Lenoir County—six elementary schools, three junior high schools, and two senior high schools. Enrollment in these schools ranges from 369 to 920. The total school population is 5,017. Lenoir County schools have been totally integrated since the fall of 1968.

Three of the elementary schools qualify to receive services from Title I because of the concentration of disadvantaged children.
ANALYSIS OF NEED

Reading is the greatest need of students in public schools in North Carolina, and the students in Lenoir County are no exception.

The anticipated enrollment in first grade for 1973-74 was 560 students. Of this number it was estimated that 85% would score 44 or below on the Metropolitan Readiness Test, placing them in the delayed readiness category. This estimate was based on statistics from the previous five years.

Of the 494 first year students enrolled in Programed Tutoring, 196 students, or 40.5% needed to continue in Programed Tutoring.

Of the 202 second year students, who were enrolled in Programed Tutoring and who were functioning at first grade level, 36 students or 17.3% needed to continue in the second and/or third level Programed Tutoring.

Of the 115 third year students, who were enrolled in Programed Tutoring and who were functioning at first grade level, 111 students or 96% needed to continue in the second and/or third level Programed Tutoring.
PROGRAM DESCRIPTION

The 1973-74 school year was the sixth year of operation for Programed Tutoring in Reading in Lenoir County schools.

The three elementary schools included in the program were selected on the basis of the number of children from low income families as determined by census data supplied by Applied Urbanetics. Data used to select participants for the program came from the readiness test scores which first grade pupils made on the Metropolitan Readiness test. Those scoring 44 or below were eligible for Programed Tutoring. Second and third grade students who did not complete Programed Tutoring in 1972-73, as well as second and third grade students who showed poor classroom performance and who were recommended by their teachers, were enrolled in the program. Priority was given to first graders.

Of the 461 students enrolled in Programed Tutoring, 228 were first graders, 194 were second graders, and 40 were third graders. Approximately 57% of the students were boys and 43% were girls; 63% were black and 37% were white.

The performance objective established for the tutoring program was, "Students enrolled in Programed Tutoring in reading will increase their reading comprehension by nine months as demonstrated by their scores on the Metropolitan Achievement Test."

Programed Tutoring was developed at Indiana University by Dr. D. G. Ellson and his associates as a supplement to classroom teaching. In this system of tutoring the three basic skills of reading (sight reading, word analysis, and comprehension) have been broken down into sub-skills which are taught by nine item programs. These item programs are:

Oral Reading
Reading
Instruction Comprehension
Question Comprehension
Statement Comprehension
Inference Comprehension
Completion Comprehension

Story Comprehension
Word Analysis Comprehension

Each of the nine item programs has a series of test and teaching steps which must be followed. The student is asked to read an item in the lesson. If he can do this correctly, it is reinforced and he is asked to read the next item in the lesson. However, if he cannot read the item correctly he is taught the correct response using a prescribed technique. Success is emphasized. Failure simply serves as a signal to the tutor for the next step.

A lesson is composed of 15 or fewer items. The lesson program specifies the order in which the tutor presents and reviews items with the student. The first time a lesson is read, all items are presented. After the first time the tutor only presents the items missed. When the last item is completed correctly, the process is repeated until the student reads the lesson correctly or until he has tried ten times. The tutor and the student then begin work on the next lesson.

The program eliminates unnecessary practice on items the student already knows and focuses the teaching effort on areas where the child being tutored needs help.

The tutoring procedures are simple. They are systematically programmed and are specified in great detail so that tutors with limited education and work experience can be trained to a high degree of effectiveness. Tutors are trained to carry out the programs in such a way that a casual observer would assume that the tutor's activities were spontaneous.

There are two distinct parts to tutoring sessions, one informal and the other formal. The informal part occurs before and after tutoring. It includes the child's arrival for tutoring and his departure for the classroom.

During the formal fifteen minute tutoring session, the tutor's interactions with the students are determined entirely by the tutoring programs. She tutors the same children for the entire school year unless a student completes the tutorial program or transfers out of the unit.
PERSONNEL

The following personnel are involved in the operation of programed tutoring in reading: one Language Arts Supervisor, one Field Aide, 31 tutorial aides, one evaluator (half time), and one secretary (half time).

The Language Arts Supervisor administers the programed tutoring project; assists in selection, employment and assignment of tutors; maintains records of tutored children for purposes of evaluation and placement; helps select and assign children for tutoring; aids the classroom teachers in grades 1-3 in selecting suitable materials; interprets the work of the tutor and the tutorial projects to parents, the school administration, teachers, the public, other interested school systems; and provides the training necessary for the tutors.

The professionally trained person who is responsible for the programed tutoring project should have experience and training in elementary education with special competence in the field of reading. A thorough knowledge of the procedure, content, and philosophy of programed tutoring is very important.

The Field Aide (Tutor Consultant) maintains the quality of tutoring by checking the tutoring activities for consistency with the programed procedures, by judging the acceptability of the expected individual variations in tutoring activity; and by making sure the students are properly placed in the program. The Field Aide also keeps tutors informed of employment regulations and procedures; acts as liaison between tutors and the Language Arts Supervisor and other school personnel; plans and adjusts tutoring schedules for the maximum convenience of the classroom teacher and the benefit of the student; checks tutor's reports and records, making sure they contain the correct information and are prepared regularly and on time; assists in group training of new tutors at the beginning of the year; and continues training of tutors through on-the-job supervision throughout the year.
One full-time field aide can work effectively with tutors in three to six schools depending on the distance between the schools, and the number of tutors per school.

The tutor's activities during the 15 minute tutoring periods must be supervised by a person with a highly specialized and detailed knowledge of the specific tutoring programs and procedures used. This supervision must be provided in order to maintain consistency between the tutor's teaching activities and the tutoring programs. The special nature of programmed tutoring makes it possible to delegate direct supervision of the work to specially trained paraprofessionals who have had one or more years of successful tutoring experience.

The Tutor's teaching activities are controlled in detail by the programs. The tutoring procedures are systematically programmed and are specified in great detail so that tutors can be trained to a high degree of effectiveness. The programmed tutor is a technician whose teaching activities are very carefully delimited and controlled by the teaching program. The programmed tutor is required only to judge the correctness of reading responses and the acceptability of answers to questions, but must follow the instructions for the program exactly as they are presented in the guide.

Tutoring is the tutor's primary function, but other duties include making friends with the children being tutored; escorting them to and from their classrooms; laying out and putting away tutoring materials; completing reports to teachers; and keeping records up to date.

The Evaluator collects and compiles research data for evaluation of the program.

The Secretary keeps accurate, up-to-date records of all students enrolled in the program; transfers weekly progress reports of all students enrolled in the program to the supervisor's chart; keeps supplies available for tutors at all times and sends them out as needed; handles correspondence; and disseminates information on Programed Tutoring as requested.
PRESERVICE AND INSERVICE TRAINING

The group training of tutors is divided into three workshops. These workshops are supplemented by study and practice. The first workshop, consisting of five half-day sessions, is scheduled a week before tutoring is to begin in the schools. The second training workshop consists of three half-day sessions held about the fourth to sixth week of tutoring. At the end of each half-day session of group instruction, the tutors-in-training are given an assignment of a half day of study and practice. The third training workshop is held much later—14 to 16 weeks into the program—and is a one-day session.

Toward the end of all the training workshops the supervisor requires a written examination over the procedures covered thus far in training. This test is used as a guide to the trainer as to what information has or has not been mastered.

During the sessions held in the first workshop, the tutors are introduced to their job and given training in the tutorial programs used in conjunction with the children's beginning reading materials. Part of the first day's session is used as an introduction to the school system and the programmed tutoring project. The distribution of tutoring materials and instruction in the preparation of this material for tutoring which includes the marking of lessons and items in the texts completes the first day's session.

The remaining four sessions in the first training workshop are used for presentation of the Lesson Program, the Sight-reading Item Program, the Instruction, Question, and Statement Comprehension Item Programs, including practice in their use. With this training, the tutor is prepared to begin tutoring with all the programs required for work in the beginning level materials and the lessons associated with them in the Comprehension and Word Analysis Book (CAWA).

In the second training workshop, the Reading Item Program is presented and the special recording procedure is taught. In addition, training is given in the Inference, Completion, and Story Comprehension Item Programs and Word Analysis Completion Item Program. These programs are used in tutoring with the primer and the first reader. Classroom instruction in the primer usually begins in the third or fourth month of the school year. Tutors, however, must be prepared to work in the primer much earlier because some tutored children, working at their own rate, will almost certainly complete the pre-primers in a few weeks.

In addition to training in programs not taught in the first workshop, the second training workshop also provides an opportunity for questions and discussion of problems which would include tutor errors observed by the supervisor during the first three weeks of tutoring. Practice on specific areas of difficulty are included if necessary.

The third training workshop is largely devoted to review and practice of previously taught programs and procedures. Time is also
allowed for questions, discussion, and further identification and correction of tutoring errors.

Since the programs and procedures used in Tutorials II and III are identical except for the use of the different grade-level reading texts and their related CAWA books, the same training procedures and schedules will apply for both Tutorials. All tutors using the Tutorials II and III, however, must know the programs and procedures of Tutorial I thoroughly.

Experienced programed tutors are assigned to either Tutorial II or III and the initial training workshop is five days. The first day is spent introducing the tutorial program, distributing the tutorial materials, teaching the marking of lessons and units in the reader, teaching the Reading Item Program and its recording and the Aural Comprehension Programs used with the reader. The second day is spent teaching the Aural Comprehension Procedure to teach word analysis lessons, including recording. The third day is used to teach the remaining four item programs which are used to teach world analysis lessons, including recording. The fourth day of the training workshop is used to present the placement procedure. The final day is spent on remarking the beginning lessons in the reader, then practicing and reviewing these beginning lessons.

The second training session consists of two days. During this time all procedures are reviewed. The question and answer period is a very important part of this training session. The training session is held about the sixth week of tutoring.
FACILITIES

Each tutor has a separate area located outside the classroom. This area contains a primary table and two chairs. It must be visually isolated from passersby and from other tutoring groups, but several stations may be set up in a room, hall, cloakroom—any available place where the tutor may work with the students. Children leave their classrooms and go to their tutor’s area for the 15 minute tutoring sessions.

MATERIALS AND EQUIPMENT

The teaching materials used in the tutoring include the same basic readers used in the classroom. The tutor and student also work through additional books containing materials for the tutoring of comprehension and word analysis. In addition to a set of classroom readers, the tutor must have a tutorial kit to accompany the series of books being used. This kit contains:

- Comprehension Book
- Word Analysis Book
- Tutor’s Guide
- Master List
- Word Lists
- Cover Cards
- Record Sheets

This material is available in many different series, as seven major book companies have a tutorial component to their basic reading programs.
PARENTAL INVOLVEMENT

In 1972-73, through the help of a Home-School-Community Coordinator in each school, a parental visitation program for programmed tutorial was expanded.

Ground rules were necessary in a structured program of that type. A parent was invited to visit during an entire 15 minute session, so that disturbance was held to a minimum.

A parent was permitted to observe his own child if it was felt that the child would suffer no adverse effects. When such observation did create concern on the part of the child, the parent was asked to observe a child he did not know.

After time passed with the implementation of such a program, it was found that many children were distracted by such visits. The structured format called for no physical distractions of any kind. This visitation violated that stipulation.

Some of the parents who visited their own child being tutored later "scolded" the child for missing words during the observed session. This again was in strict violation of the procedures, for the programmed tutorial is based upon positive reinforcement. A child is never told that he is wrong and he is never criticized for his errors.

Due to these experiences and the loss of the Home-School-Community Coordinator to schedule parental visitations, the visits were terminated on this basis. The coordinator was needed to check schedules and arrange or visits on the child's particular schedule. Many of the parents were in a disadvantaged category and did not have transportation. Some parents lacked the interest to follow through from just a suggestion or an invitation. The coordinator personally transported many of these parents. Therefore, when the coordinator position was discontinued, transportation was hampered.
EVALUATION

In May, 1974, 228 first grade participants in programed tutoring in reading achieved a mean grade equivalent of 1.6 on the Metropolitan Achievement Test. In September, 1973, each of the participants had been identified as students who could not be expected to read in the first year of school without special instructional help. By May, more than half of the group was reading in the first reader of the Tutorial Program.

In May, 1974, 194 second grade participants achieved a mean grade equivalent of 2.2 on the California Test of Basic Skills. In September, 1973, each of the participants was reading in the first reader or lower. By May, 131 of the participants were reading in the 2.1 reader or higher.

In May, 1974, 40 third grade participants achieved a mean grade equivalent of 2.6 on the California Test of Basic Skills. In September, each of the participants fell at or below grade equivalent 2.1. By May, 34 of the participants were reading in the 2.1 reader or higher. Eight participants were reading in the 3.1 reader.

A total of 484 students were enrolled in Programed Tutoring in reading with a total mean grade equivalent of 2.1. Success was shown by the test data shown in Table I-IV.

TABLE I

FIRST GRADE - PROGRAMED TUTORIAL - EVALUATION - READING
School Year 1973-74

<table>
<thead>
<tr>
<th></th>
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</tr>
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<tbody>
<tr>
<td>14</td>
<td>14</td>
<td>1.2</td>
<td>Preprimer</td>
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<tr>
<td>95</td>
<td>23</td>
<td>1.5</td>
<td>Primer</td>
</tr>
<tr>
<td>93</td>
<td>31</td>
<td>1.7</td>
<td>1st Reader</td>
</tr>
<tr>
<td>26</td>
<td>34</td>
<td>2.1</td>
<td>2.1 Reader</td>
</tr>
<tr>
<td>228</td>
<td></td>
<td>1.6</td>
<td>Total</td>
</tr>
</tbody>
</table>

* Score of 44 or below indicates students who cannot be expected to read in the first year without special help.
### TABLE III

**THIRD GRADE - PROGRAMED TUTORIAL - EVALUATION - READING**

*School Year 1973-74*

<table>
<thead>
<tr>
<th>Number of Participants</th>
<th>CTBS Pre Test May 1973 Grade Equivalent</th>
<th>CTBS Post Test May 1974 Grade Equivalent</th>
<th>Instructional Level May 1974</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>2.2</td>
<td>2.5</td>
<td>Preprimer</td>
</tr>
<tr>
<td>2</td>
<td>2.5</td>
<td>2.5</td>
<td>Primer</td>
</tr>
<tr>
<td>2</td>
<td>1.6</td>
<td>2.0</td>
<td>1st Reader</td>
</tr>
<tr>
<td>14</td>
<td>1.7</td>
<td>2.2</td>
<td>2.1 Reader</td>
</tr>
<tr>
<td>12</td>
<td>1.9</td>
<td>2.9</td>
<td>2.2 Reader</td>
</tr>
<tr>
<td>8</td>
<td>2.1</td>
<td>3.2</td>
<td>3.1 Reader</td>
</tr>
<tr>
<td>40</td>
<td></td>
<td>2.6</td>
<td>Total</td>
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### TABLE II

**SECOND GRADE - PROGRAMED TUTORIAL - EVALUATION - READING**

*School Year 1973-74*

<table>
<thead>
<tr>
<th>Number of Participants</th>
<th>Placement Level September 1973</th>
<th>CTBS May, 1974 Grade Equivalent</th>
<th>Instructional Level May 1974</th>
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<tbody>
<tr>
<td>4</td>
<td>Preprimer</td>
<td>1.5</td>
<td>Preprimer</td>
</tr>
<tr>
<td>15</td>
<td>Preprimer</td>
<td>1.9</td>
<td>Primer</td>
</tr>
<tr>
<td>44</td>
<td>Primer</td>
<td>2.0</td>
<td>1st Reader</td>
</tr>
<tr>
<td>108</td>
<td>Primer</td>
<td>2.0</td>
<td>2.1 Reader</td>
</tr>
<tr>
<td>20</td>
<td>1st Reader</td>
<td>2.9</td>
<td>2.2 Reader</td>
</tr>
<tr>
<td>3</td>
<td>1st Reader</td>
<td>2.6</td>
<td>3.1 Reader</td>
</tr>
<tr>
<td>194</td>
<td></td>
<td>2.2</td>
<td>Total</td>
</tr>
</tbody>
</table>
# TABLE IV
PROGRAMED TUTORIAL EVALUATION—READING
1973-74

<table>
<thead>
<tr>
<th>Schools</th>
<th>First Grade</th>
<th>Second Grade</th>
<th>Third Grade</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>% of students in 1st Reader</td>
<td>% of students who completed 1st grade and entered 2nd grade program</td>
<td>% of students who completed 1st Reader of 2nd grade program</td>
<td>Total %</td>
</tr>
<tr>
<td>Contentnea</td>
<td>51%</td>
<td>39%</td>
<td>10%</td>
<td>49%</td>
</tr>
<tr>
<td>La Grange</td>
<td>56%</td>
<td>43%</td>
<td>13%</td>
<td>56%</td>
</tr>
<tr>
<td>Southwood</td>
<td>44%</td>
<td>50%</td>
<td>8%</td>
<td>58%</td>
</tr>
<tr>
<td>COUNTY PERCENTAGE</td>
<td>50%</td>
<td>44%</td>
<td>10%</td>
<td>54%</td>
</tr>
</tbody>
</table>

Objectives as stated in project application.  
First Graders—40% of students who scored 44 or below on Metropolitan Reading Readiness Tests will be reading in a first reader after 160 sessions.  
Second Graders—30% of second grade students in first grade Tutorial Program will complete first grade material and first reader of second grade program after 160 sessions.  
Third Graders—25% of third grade students in first grade Tutorial Program will complete first grade material and first reader of second grade program after 160 sessions. 15% of third graders in second grade program will complete program after 160 sessions. 3% of third graders will complete third grade program.
BUDGET

Salaries
Supervisor $13,729
31 Tutors 92,070
$105,799

Materials/supplies 4,150
Total $109,949

Number of Participants 484
FURTHER INFORMATION

Additional information about the programmed tutoring program can be obtained from any of the following people:

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