This paper reports on an intensive, highly-structured, one-to-one tutoring system used as a model program. The "Tutor-Student System in Beginning Reading," the basic instructional material for the model program, was developed to train tutors to say and do what the reading specialist normally says and does when teaching reading in a one-to-one situation. For one hour a day, five days a week for ten weeks, eighteen students in grades ten and eleven in an inner-city public high school who were reading below a fourth-grade level received intensive tutoring in place of English or reading classes. A control group received instruction in English or reading classes. This paper describes the details of the tutor-student system and concludes from the results of the study that the program produced statistically significant gains in reading achievement for high school students reading below a 4.0 level. University tutors and high school tutors can produce rapid improvement in reading for potential dropouts when using the "Tutor-Student System in Beginning Reading." (TS)
Illiteracy figures continue to confront reading specialists, but few models have been set forth to deal with the illiteracy problem concretely. The United States census for 1969 shows that 1.4 million persons fourteen years old or older are totally illiterate. The Department of Health, Education and Welfare reports that one million children twelve to seventeen years of age are reading below a fourth-grade reading level. The 1970 Louis Harris Poll indicates that 18.5 million adults are functionally illiterate. Furthermore, more than 700,000 students drop out of public schools each year. Most of these dropouts are severely retarded in reading.
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Need

Statements from prominent individuals regarding "major drives against illiteracy" and plans "to launch literacy academies run by volunteer tutors" provide little hope to the harried reading specialist who is made to feel like the economist viewing a sinking economy while listening to presidential pleas to the consumer for energy conservation. The truth of the matter is that the reading specialist knows how to solve the problem of illiteracy but presently does not have the administrative influence to make significant changes on a widescale basis.

The reading specialist knows that significant reading improvement for the non-reader or the severely retarded reader can be attained through one-to-one reading instruction provided that three objectives are met: (1) rapport between the tutor and the student is good, (2) certain learning principles are followed, and (3) the basic instructional approach suits the modalities and experiential background of the learner. The success of approaching the reading problem in this manner has been proven time and time again in reading clinics, the classroom, and even the home.

The solution to the illiteracy problem, and in turn to a large degree the dropout problem, then, is to devise novel one-to-one tutoring programs which
achieve as nearly as possible the three objectives outlined above, and then to implement highly successful models. Needless to say, the model programs should be easily replicated so that their success can be measured and their components improved.

What follows is a description of the implementation and testing of one model program for dealing with illiteracy at the high school level. The program is called the "Tutor-Student System Dropout Prevention Model" and was designed specifically to fulfill the three major objectives listed above.

Method

Intensive, highly-structured, one-to-one tutoring by eleventh and twelfth grade students and university students was the basis of the model program. The Tutor-Student System in Beginning Reading, published by National Tutoring Institute, Inc., Kansas City, Missouri, was used as the basic instructional material. The System incorporates an eclectic approach and provides the tutor with specific "Say" and "Do" instructions.

Thirty-six students in grades ten and eleven of an inner-city public high school in Kansas City were identified as functioning below a fourth-grade reading level. These students were identified through testing.
The Stanford Diagnostic Test and the Gilmore Oral Reading Test were administered to determine if students were reading below a 4.0 (fourth grade) level. Also administered were the Keystone Visual Survey Test, the Wepman Auditory Discrimination Test, the Wechsler Adult Intelligence Scale; and the Prugh-George School Attitude Scale.

Eighteen students were randomly assigned to the Experimental Group, and the remaining eighteen students formed the Control Group. The average reading level of the Experimental Group and the Control Group was 2.8 in reading comprehension. A three-month difference in favor of the Experimental Group was shown in reading accuracy (3.3 versus 3.0). Both groups had a mean of -1 (below average) in auditory-discrimination. No statistically significant difference was found between the Experimental and Control Groups in any of the areas tested including intelligence and attitude toward school.

For one hour a day, five days a week for ten weeks the eighteen experimental subjects received intensive tutoring in place of English or reading classes. The Control Group subjects received instruction in English or reading classes.
The Tutor-Student System in Beginning Reading, the basic instructional material in the model program, was developed to train tutors to say and do what the reading specialist normally says and does when teaching reading in a one-to-one situation. The material was written in language simple enough so that children and adults of all ages, who can read, could use the System to tutor another person in reading.

Rapport between the tutor and student is aided through the use of a step-by-step dialogue and action guide for establishing positive tutor-student relationships. Called the "Student Needs Checklist", and based upon Maslow's Hierarchy of Needs, the guide provides specific performance objectives for the tutor. Explicit directions are included for meeting physiological, safety, belonging, esteem, and self-actualization needs. Also, frequent reinforcing statements such as "Good!", "Very good!", and "You read that very well!" are imbedded, so to speak, in each dialogue (Say) and action (Do) guide designed for teaching specific reading skills.

Specific reading skill instruction is found in the Tutor-Student System in Beginning Reading in fifty-two sections which include a total of two hundred and sixty lessons. Each section includes five lessons and provides...
the tutor with an eclectic approach for teaching reading. Relying heavily on the language and experience of the student, each section includes analytic phonics, linguistic, whole word, VAKT, and language experience approaches. A section takes approximately one hour to complete.

The eclectic approach used in the Tutor-Student System in Beginning Reading calls into play visual, auditory, kinesthetic, and tactile modalities as the student learns to read. Should the student be weak in one modality, and thus unable to learn by one approach (e.g., phonics), another approach is available to insure that learning occurs.

Nine university tutors and nine high school tutors received three days of training in following the specific "Say" and "Do" directions included in the Tutor-Student System in Beginning Reading. A video tape of a model lesson was used in the training. The tutors worked side-by-side in pairs (one high school student and one university student) when tutoring their students on a one-to-one basis. The program, funded by a faculty research grant from the University of Missouri, provided hourly pay for the tutors.
At the conclusion of the ten-week program, the subjects in the Experimental Group and the Control Group were post-tested. Data were compiled and analyzed to determine statistically significant findings regarding the treatment procedure.

Results

The overall conclusion, based on analysis of data, is that the program as designed produced statistically significant gains in reading achievement for high school students reading below a 4.0 level. University tutors and high school tutors can produce rapid improvement in reading for potential dropouts when using the Tutor-Student System in Beginning Reading in the manner suggested.

Statistical analysis of the data showed that three of five hypotheses were statistically significant at the .05 level or better.

1. Experimental Group subjects made significant improvement over Control Group subjects in word recognition ability at a .007 level of significance ($t = 2.85$). On gain score analysis the Experimental Group scored significantly better at a .001 level of significance with $t$ equalling 3.74.
2. Experimental Group subjects made significant improvement over Control Group subjects in reading comprehension at a .005 level of significance ($t = 3.02$). On gain score analysis of reading comprehension ability, the Experimental Group scored significantly better than the Control Group at a .003 level of significance with $t$ equalling 3.24.

3. Experimental Group subjects made significant improvement over Control Group subjects in overall reading improvement. Statistical analysis of the Gilmore Oral Reading Test pre-test and post-test scores indicates that the Experimental Group made significant improvement over the Control Group in accuracy and comprehension at a .007 and a .005 level of significance respectively. No statistically significant difference was indicated between the two groups in silent reading comprehension as measured by the Stanford Diagnostic Test.

4. Experimental Group subjects did not make significant improvement over Control Group subjects in vocabulary knowledge. The Control Group was significantly higher on both pre-test and post-test of vocabulary knowledge at a .06 and a .01 level of significance respectively.
5. Experimental Group subjects did not make statistically significant improvement over Control Group subjects in attitude toward reading and education in general. While not statistically significant, a three-point gain was made by the Control Group, whereas a four-point gain was made by the Experimental Group on the Prugh-George School Attitude Scale.

Discussion

The data suggest that the Tutor-Student System Dropout Prevention Model can be used successfully for producing rapid improvement in reading for potential high school dropouts reading below a 4.0 level. Statistically significant differences in favor of the Experimental Group were found in a number of areas. The greater gains made by the Experimental Group cannot be easily attributed to initial differences between the two groups in intelligence, chronological age, sexual composition, or other variables. The groups were randomly assigned using a table of random numbers, and simple t tests for significance showed that the groups were equivalent in the above areas at the outset of the program.
Significant gains in reading achievement for potential dropouts were made in a ten-week period. The present model program should be replicated not only to prove the findings but also to improve the model. Replication of the program on a large-scale basis would also mean that many more poor readers in high school would have a means for coping with reading material. Group instruction for high school illiterates is obviously not the answer.

The answer to the illiteracy problem seems to exist in one-to-one instruction. Whether this instruction takes place in a clinic, classroom, or home is immaterial. Saying and doing the right thing in a tutoring session is essential, however, and reading specialists who have studied learning, reading behavior, and reading instruction approaches provide the best resource material available.

Training millions of reading specialists to go into the schools to teach reading on a one-to-one basis is unrealistic, but training millions of good readers to say and do what reading specialists normally say and do when teaching reading is realistic and should be worth the effort.