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AUTHOR Graves, Michael F.
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ABSTRACT

A tutoring program has been developed for the purpose of teaching reading to secondary school students seriously deficient in reading skills. The first section of this paper describes the highly structured instructional program that is employed. It also notes preliminary results of the tutoring, which indicate that 17 of the 25 students tested made gains at least at twice the average rate. The paper then discusses the training program for the tutors, who are college students or college graduates. This training program which also is highly structured, makes use of tutor-training packets and requires the use of on-site supervisors, both for initial instruction and for monitoring and consultation during tutoring. The final section of the paper considers the economic and logistic feasibility of extending the program for use with large numbers of public school students. Present plans are to structure the program even further, so that secondary students can serve as tutors and so that large amounts of teachers' time will not be required. (GW)

A Highly Structured Tutoring Program For Secondary Students Seriously Deficient in Reading Skills

Michael F. Graves

University of Minnesota

For the past three years a group at the University of Minnesota has been developing a tutoring program aimed at teaching reading to secondary school students seriously deficient in reading skills. Throughout this period, roughly equal amounts of time and effort have been devoted to three goals. The first is to develop and implement instructional procedures and materials that will successfully teach the majority of secondary students seriously deficient in reading to read adequately. The second is to develop and implement tutor training procedures and materials that will prepare persons without previous training in teaching reading to competently tutor. And the third is to make the tutoring program and the tutor training program transportable, economical, and logistically feasible for public school use. This paper briefly describes our progress toward each of these goals.

The Instructional Program

The instructional program is highly structured. Based on grade level designations yielded by the Spache test (Spache, 1972) the number of correct responses on a tachistascopic test of word recognition (see Graves et. al., 1974-75, Assessing Reading Ability), and teacher judgment, the student is placed in one of three instructional programs. The first of these, a locally developed program called the Graves Sequence (Graves and Graves, 1972), takes students from illiteracy to about the second grade level. The second, the commercially published Action Program (Cebulash,

1970), takes students from about the second grade level to about the third. And the third program, the commercially published Double Action Program (Cebulash, 1973), takes students from about the third grade level to about the fifth.

Within each of these programs, students follow a set curriculum. A brief description of the contents in two Action lessons will serve to illustrate the extent to which curriculum is fixed. Lesson 51 in Action introduces the long "e" sound of "ea," reviews the silent "k" sound from lesson 50, and deals with the comprehension skills of finding proof, recognizing sequence, identifying main ideas, and making inferences. Following Lesson 51, all students proceed to Lesson 52, where the long "e" sound of "ea" is reviewed from Lesson 51, compound words are reviewed from Lesson 1, and the comprehension skill of reading for details is covered. Each of the three teaching programs is similar in that students follow this sort of set curriculum.

Additionally, the format of a tutoring session is quite thoroughly fixed. A day's session in each of the programs consists of five possible activities. In Action these are a prereading activity (work done prior to reading a specific selection to help the student read and understand that selection), a reading activity (oral or silent reading of a specified selection), a postreading activity (generally comprehension questions), individual skills work (tutor-designed exercises specific to the individual students) and a game (one of a specified set of games that is related to teaching reading). Of these five activities, prereading, reading, and postreading activities are required parts of every session, while individual skills work and the games are not required parts of every session but are

intended to be included in the majority of sessions. The five activities of the other two programs are similar.

Since both the curriculum and the format of each of the programs is largely preset, the major source of individualization (at least of planned individualization) within a program is that each student pursues it at his own rate. Let me stress this point. Our tutoring program includes one-to-one instruction and individual pacing, but it is not individualized in the sense that each student is presented with a unique curriculum.

To date, results of the tutoring are available for 25 students. These students were enrolled in four Minneapolis and St. Paul public junior high schools and were in the seventh through ninth grades (with the exception of one sixth grader), participated in the tutoring for between three and 18 months, and were tutored sometime during the past three years. Appoximately two thirds of these students were tutored for three 50-minute sessions per week and one third of them for five 50-minute sessions each week.

Table 1 presents the average scores for these 25 students. As can be seen from the Table, pretest scores on the Spache test ranged from 1.6 (the lowest score yielded by the Spache) to 5.5 with the mean pretest score being 3.4. Posttest scores on the Spache ranged from 1.6 to 8.5 with the mean being 4.8. Gains per month of instruction ranged from 0 to 8.1 with the mean gain being 3.0.

Table 2 presents the individual scores for these students. Several factors should be considered. First, since these students participated in the project for various lengths of time, the gain per month figure (shown in the right hand column) is a convenient index of the rate of gain.

Second, the students are ranked, with the students with the fastest rates of gain at the top and the students with the slowest rates of gain at the bottom. Third, considered in terms of their rate of gain, the students fall into several groups. Twenty-eight percent of them (students one through seven) made gains of at least four times the average rate; 68 percent of them (students one through 17) made gains of at least twice the average rate; and 84 percent of them (students one through 21) made gains of at least the average rate. Conversely, only 16 percent of the students (students 22 through 25) made gains of less than the average rate.

We are encouraged by these results. These figures indicate that the majority of students we have worked with make quite rapid progress. However, relatively few of the students, only eight of them, have as yet reached a level of at least 6.5, a level we are tentatively taking as indicating reading adequacy. We will have to await further results from the ten or so of these students who are still being tutored to evaluate our success in teaching the majority of students to read adequately. Thus, while we are encouraged by the results thus far, we know that the program will not work for all students and that for many students the remedial instruction will be lengthy.

Currently we are re-evaluating various facets of the instructional program trying to determine the sorts of additions, deletions and modifications that would strengthen the program.

The Tutor Training Program

The tutors we have worked with thus far have been college students or college graduates. In one setting, they have been undergraduate and graduate students completing a program with some emphasis in reading and enrolled in a course for credit. In another setting, they have been

Teacher Corps interns (students in a two year graduate program in special education who spend about half the day working in a public school and half of it taking university classes). And in another setting they have been volunteers recruited from the university community and various social agencies in the Minneapolis area.

Tutor training began as a relatively informal process, probably best characterized as on-the-job training. During the 1973-74 school year, tutors were given a brief teacher's guide to the Graves Sequence and the published teachers guides to the Action and Double Action programs. They were observed daily while tutoring, met as a group with the tutoring supervisor weekly, and met individually with the tutoring supervisor as problems arose. Although this approach created some anxiety for beginning tutors, it was not ineffective. It was, however, extremely expensive, requiring large amounts of supervisors' time for observations and individual meetings.

In an effort to lower the costs of training and with a view toward making the program transportable, during the summer of 1974 we began developing a set of seven tutor training packets specific to the program. (Graves, et. al., 1974-75). Four of these packets deal with general topics -- word attack skills, comprehension skills, readability, and high interest--easy reading materials. Each of the other three deals with one of the instructional programs-- the Graves Sequence, Action, and Double Action. These packets, which total approximately 300 typed double-spaced pages, constitute the backbone of the present tutor training program.

To date the tutor training packets have been used in two ways. In some settings where we have worked, tutors individually study the packet on the instructional program they will be using concurrently with

beginning to meet with their tutees. What usually happens in these situations is that the tutors spend the first meeting with their tutees getting acquainted and the second meeting conducting an activity that the tutoring staff has preplanned Then they begin using the Graves Sequence, Action, or Double Action program at the third metting. Each of the packets is then dealt with in class meetings that are held throughout the time that the tutors are teaching. In other settings where we have worked, initial training takes place in a series of six two-hour training sessions held prior to the tutors' beginning to work with their students. In these settings, the six training sessions are spread out over two to three weeks and each of the training packets is covered in succession. In both sorts of settings, there are generally weekly group meetings of tutors and their supervisors, frequent observations of the tutoring, individual conferences of the tutors and supervisors, and weekly review and feedback on the lesson plans tutors write for each day's lesson.

Several observations can be made about tutor training. The first is simply that using a well-structured training program and the packets provides training that is much more efficient and effective than was the earlier informal training.

The second observation has to do with the need for on-site tutor trainers and supervisors. We have put a good deal of effort into attempts to construct a tutor training program that is self-instructional, that does not require a teacher to do the training. In writing the packets we included pretests, posttests, answer keys and the like and believed that tutors could prepare themselves to use the programs by studying only the packets and the teaching materials themselves. We were wrong.

Tutor training presently requires a well-trained, on-site supervisor for both initial instruction in use of the programs and for monitoring and consultation during the extent of the tutoring. And it is our current thinking that as long as our program requires the extent of tutor decisions that it now does, an on-site supervisor of this sort will continue to be necessary.

The third observation has to do with the time demands our training makes on tutors. I have already noted that initial training has been accomplished in six two-hour sessions. This is minimal. In addition, tutors have reported spending about an hour outside of the training sessions for each hour in them, making a total of 24 hours for initial training. Added to this are perhaps six hours a week during the time tutors are teaching for the tutoring, planning, and group and individual meetings. All and all, this is certainly a formidable amount of time.

The final observation has to do with the order in which tutor training and the actual tutoring takes place. For a variety of reasons, we have been forced until recently to begin tutor training concurrently with the tutors' actually working with their students. This, it has always seemed to us, made no sense. And over the last year we have been able to provide the training prior to the actual tutoring with two groups, one group of adult volunteers and one group of college students receiving credit for tutoring. What we have found is that the training we have provided prior to tutoring has little effect. Even when procedures are conveyed to tutors on paper, in lecture, through demonstrations, and through role playing, many of the tutors, certainly half of them or better, do not perform the procedures appropriately until they have tried them on an actual student and received feedback on their effort.

Economic and Logistic Feasibility

I chose consideration of the economic and logistic feasibility of the tutoring program as a concluding topic because our aims throughout our work have been intensely practical. Our interest in the tutoring program would be severely diminished if our work did not eventually result in something that could be used successfully with large numbers of students. Presently, however, the tutoring program is neither economically nor logistically feasible for the majority of public schools. At the same time, we are making progress in both of these directions, particularly in terms of realizing the problems and some potential solutions.

Regarding economic feasibility, the major question is that of the cost of individual tutors. Certainly, certified teachers are too expensive. Paid paraprofessionals are a possibility, but still likely to be quite expensive (I should note here that Ellson, 1976, presents a tenable argument for the cost effectiveness of paid paraprofessionals, at least in the long run, that is certainly worth consideration). Volunteers are another possibility, but whether enough volunteers could be found and trained is very questionable. Also, our own work with volunteers suggests that they are unlikely to provide a large-scale solution to the problem. Elimination of these groups would appear to leave one large group of potential tutors. The most likely source of tutors, we currently believe, is secondary students. While we have not previously worked with students as tutors, our aim is to begin doing so shortly. And results of other programs employing students as tutors (I am thinking particularly here of the work of Rosenbaum, 1973) strongly suggest that they can be effective.

Regarding logistic feasibility, we have completed detailed descriptions

of the program, have constructed or assembled teaching programs, and have definitely established tutor training techniques. However, as noted above, tutor training currently requires an instructor thoroughly familiar with the program to train tutors on site. Also, continuing supervision and monitoring of the tutoring requires a thoroughly trained on-site supervisor. The major question here is that of who would do this tutor training and supervision. Presently, I would be uncomfortable with having the tutor training function performed by any one we had not directly trained. I would be more comfortable, on the other hand, with the supervision being done by the school reading teacher. However, given the present tutoring program that supervision would be extremely time-consuming and hence logistically difficult for schools with limited staffs.

Given both of the above considerations-- that secondary students are the most likely source of tutors and that training and supervision procedures are presently too complicated to be logistically feasible-- my current thinking is to move in the direction of constructing a program even more highly structured than the present one, something that looks more like Ellson's "Programed Tutoring" or Rosenbaum's "Peer-Mediated Instruction" than does our present program. And what we are currently beginning to work on is modifying the program so that if can be used by secondary students with relatively little training and so that it can be supervised without requiring impossible amounts of teacher time.

Table 1
Group Scores on Spache Test

	Low	High	Mean
Pretest scores (in years)	below 1.6	5.5	3.4
Posttest scores (in years)	below 1.6	8.5	4.8
Gain per month (in months)	0	8.1	3.0

Table 2
Individual Results

Student	Grade	Months of Instruction	Spache Test Results (Instruction Level) (Pre)	(Post)	(Gain)	Gain/Month of Instruction
1	7	4	3.8	6.5	2.7	8.1
2	7	5	3.5	6.5	3.0	7.2
3	7	3.5	5.5	7.5	2.0	6.9
4	6	9	4.5	8.5	4.0	5.3
5	8	2.5	2.8	3.8	1.0	4.8
6	7	6	4.5	6.5	2.0	4.0
7	7	3	1.8	2.8	1.0	4.0
8	8	4	1.6	2.8	1.2	3.6
9	9	4	3.3	4.5	1.2	3.0
10	8	8	5.5	7.5	2.0	3.0
11	7	4	5.5	6.5	1.0	3.0
12	7	5	1.6	2.8	1.2	2.8
13	7	9	4.5	6.5	2.0	2.7
14	8	4	3.8	4.5	.7	2.4
15	9	5	2.8	3.8	1.0	2.4
16	7	9	3.8	5.5	1.7	2.3
17	7	9	3.8	5.5	1.7	2.3
18	7	9	3.3	4.5	1.2	1.6
19	7+8	12	2.3	3.8	1.5	1.5
20	7+8	14	2.3	3.8	1.5	1.3
21	9	5	3.3	3.8	.5	1.2
22	8+9	18	2.3	3.3	1.0	.67
23	9	3.5	4.5	4.5	0.	0.
24	7	9	2.8	2.8	0.	0.
25	8	6	below 1.6	below 1.6	0.	0.

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