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THE EFFECTIVENESS OF TAPED READING INSTRUCTION IN INCREASING THE READING RATE AND COMPREHENSION OF UNDEREDUCATED ADULTS

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ABSTRACT

This study analyzed reading rates and reading comprehension as they relate to two methods of reading: 1) silent and 2) aural-silent using a tape recorder. Adults ($N = 100$) who were either grade school or high school dropouts were administered two comparable selections from which to read and to answer questions. From one selection, Ss read silently; and from the second, they read silently as they listened to the selection recorded at approximately 127 wpm. When the two methods were compared, taped instruction resulted in statistically significant ($p < .05$) improvement of both speed and comprehension. However, there were indications that 127 wpm was too slow for Ss reading above the 8th grade level and resulted in dysfunction in both rate and comprehension.

THE PROBLEM

Most successful adult basic education teachers attempt to individualize instruction because of the diversity of achievement represented by adult students. Deterents to individualized instruction are lack of adequate ways of diagnosing academic problems, a dearth of treatment

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theory and practice, and a scarcity of equipment and procedures to meet individual needs of adult students. Another problem is one which evolves around the nature of the undereducated adult learner: he tends to be impatient to learn, but reads at a very slow rate and comprehends poorly.

REVIEW OF RESEARCH

It is hypothesized by the authors that one way of individualizing instruction and at the same time increasing speed and comprehension is to use the tape recorder in innovative ways. However, little controlled research has been done to determine the effectiveness of tapes as a tool in teaching adults to read. Harris (6) suggests that the average adult reading rate is about 250 wpm. The undereducated adults in this study read material at a mean rate of approximately 115 wpm.

Articles of a general nature relating to tapes and audio-visual aids in adult reading have been written (7, 9, 13, 16, 17). While books and articles treating adult reading in a general way have been written (1, 4, 5, 11), basic research into how adults learn to read is very limited.

STATEMENT OF HYPOTHESES

The purpose of the present research was to study the effectiveness of the tape recorder in helping adults to improve their rate (words per minute) of reading as well as their reading comprehension.

Two hypotheses were considered:

Hypothesis 1: When undereducated adults are allowed to listen to material as they read it, their rate of reading will increase significantly.

Hypothesis 2: When undereducated adults are allowed to listen to material as they read it, their comprehension will increase significantly.

POPULATION AND METHODOLOGY

Subjects

One hundred adults enrolled in the Adult Basic and Continuing Education Program of the St. Paul (Minnesota) Public Schools were selected to participate in the study. They were selected on the basis of their willingness to participate. Some subjects had only recently enrolled in the program, and a few had been students in the program more than a year. Sixty-four females and thirty-six males participated. Most were on public assistance and had been referred into the program by either the Ramsey County Welfare Work and Training Project or the Ramsey County Work Incentive Program (WIN).

Of the 100 Ss, 81 were white; 11, black; 7, Mexican American; and 1, American Indian. Ss mean age was 30.7; mean grade level attained before dropping out of grade or high school, 9.3; and mean reading comprehension score at the time of the study, 7.6.

Procedures

Either the Tests of Adult Basic Education (TABE) (2) or the Wide Range Achievement Test (WRAT) (8) was administered to each subject to determine his level of reading comprehension. The WRAT was administered to 10 Ss who received scores of 15 or below on the TABE Locator Test. Each S was assigned two comparable SRA (14, 15) cards whose level of reading difficulty corresponded to S's reading score derived from either the TABE or the WRAT.

Each S read the cards under two different conditions: 1) one card was read silently, and the comprehension questions were answered immediately; and 2) the second card was listened to on tape as the material was read silently, and the comprehension questions were answered immediately. In neither situation were the comprehension questions taped. The recorded selections were taped at varying speeds, but within a range of 101 to 140 wpm with a mean of 127 wpm. These speeds were chosen because teacher observations indicated that students in the Adult Basic and Continuing Education Program were reading at very slow rates (about 120 to 150 wpm), far below the 250 wpm suggested by Harris (6) as the rate for adults. Ss were timed from the beginning of their reading to the end of their reading of each of the selections. The time taken to answer the comprehension questions was not recorded. Also, the time of the running of the tapes was ignored in determining the time used by the Ss in completing the reading of the taped material. In some cases, Ss finished before the tape; and in others, Ss finished after the tape had stopped. Ss were not allowed to re-read the written material or to listen to the taped selections a second time. One-half of the Ss used the silent method first, followed by the audio-visual method; and the other half used the audio-visual method first, followed by the silent method.

RESULTS

Rate (Words Per Minute)

Reading silently, Ss read at a mean rate of 115 wpm (see Table 1). The range was from 11 to 270 wpm, with an S.D. of 50.5.

Using taped material to accompany the visual stimulation, Ss read at a mean rate of 129 wpm (see Table 1). The range was from 61 to 160 wpm, with an S.D. of 31.

TABLE 1

READING COMPREHENSION GRADE SCORES; SILENT VS. AUDIO-VISUAL READING BY GRADE LEVEL; AND CORRELATIONS FOR GRADE LEVEL AND RATEE AND COMPREHENSION GAIN SCORES USING SILENT VS. AUDIO-VISUAL READING

Reading Comprehension Grade Scores on Standardized Achievement Test (N = 100)			Mean of S's Silent Reading Using SRA Material (N = 100)		Mean of S's Reading Using SRA Material Accompanied by Audio Stimulation (N = 100)		Net Gain Scores Between Silent Reading and Audio-Visual Stimulation (N = 100)		r Between Gain Scores and Reading Comprehension Grade Scores (N = 100)	
Range	f	Mean	Rate (wpm)	Comprehension	Rate (wpm)	Comprehension	Rate (wpm)	Comprehension	Rate (wpm)	Comprehension
1.0- 1.9	5	1.5	75	47%	95	87%	+20	+40	.31	−.70
2.0- 2.9	3	2.1	143	72%	134	76%	− 9	+ 4	.002	−.61
3.0- 3.9	4	3.3	74	65%	127	90%	+53	+25	.03	.90
4.0- 4.9	6	4.5	97	37%	128	53%	+31	+16	.70	.41
5.0- 5.9	9	5.3	67	80%	139	76%	+72	− 4	−.32	−.06
6.0- 6.9	14	6.7	96	68%	146	76%	+50	+ 8	.16	−.005
7.0- 7.9	11	7.5	103	60%	131	75%	+28	+15	−.01	−.64
8.0- 8.9	13	8.6	121	70%	129	65%	+ 8	− 5	.29	−.012
9.0- 9.9	11	9.5	136	69%	125	68%	−11	− 1	−.08	.10
10.0-10.9	13	10.6	154	64%	132	66%	−22	+ 2	−.49	.48
11.0-12.2	11	4.5	169	66%	118	59%	−51	− 7	−.42	−.12
1.0-12.2	100	7.6	115	65%	129	70%	+14*	+ 5*	−.19	−.35

* Difference between silent reading and audio-visual reading is statistically significant ($p < .05$).

A "t" test was used to determine if the difference between the silent and taped reading rates was significant. The difference was significant ($p < .05$). Thus, the first hypothesis (when undereducated adults are allowed to listen to material as they read it, their rate of reading will increase significantly) is supported.

Pearson's product-moment r (12) was calculated to determine the relationship between Ss' reading comprehension grade scores and their gain scores when tapes were used. The result for all Ss ($N = 100$) was $r = -.19$ (See Table 1). The highest positive correlation was $r = .70$ for fourth grade readers ($N = 6$).

Comprehension

Reading silently, Ss comprehended at a mean of 65 per cent (See Table 1). The range was from 0 to 100%, with an S.D. of 19.5.

Using taped material to accompany the visual stimulation, Ss comprehended at a mean of 70 per cent (See Table 1). The range was from 20 to 100%, with an S.D. of 18.5.

A "t" test was used to determine if the difference between the silent and taped comprehension results was significant. The difference was significant ($p < .05$). Thus, the second hypothesis (when undereducated adults are allowed to listen to material as they read it, their comprehension will increase significantly) is supported.

Pearson's product-moment r was calculated to determine the relationship between Ss' reading comprehension grade scores and their gain scores when tapes were used. The result for all Ss ($N = 100$) was $r = -.35$ (See Table 1). The highest positive correlation was $r = .90$ for third grade readers ($N = 4$).

DISCUSSION

That undereducated adults' reading rates and levels of comprehension are increased by their using audio tapes is supported by this research. Without the tapes, Ss were comprehending at a "questionable" instructional level, as defined by McCracken (10). With the aid of the tapes, however, they comprehended the written material at a "definite" instructional level.

While this research suggests that tapes are beneficial, it also indicates that reading material that is taped at speeds slower than the adult student normally reads may interfere with both the speed and the comprehension of the learner. There is a need for additional research to determine the most efficient speed to record material for students reading at specified rates and grade levels.

Such important differentiating factors as visual and hearing acuity and perception, intelligence, and subject matter were not controlled in this study. More research into the use of tapes as a reading instruction technique, taking into consideration these and other variables, is suggested.

The audio tapes appeared to have a deleterious effect on both the comprehension and the reading rate of those Ss whose reading comprehension grade scores were above the eighth grade level. A study similar to the present research, using accelerated or compressed speech (3), which would allow for audio rates in excess of 300 words per minute, is recommended.

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