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ABSTRACT

In 1972, using Title I funds, a study was initiated to determine the effects of using teacher aides and student tutors in remediating reading deficient second and third graders in the Boise schools. The two schools in the pilot program were located in areas having a high incidence of low-income families. Tutor managers (paraprofessionals) supervised and managed the tutoring program in each school. They trained fifth and sixth graders in the techniques of tutoring basic reading skills, tutored children, gave pretests and posttests, kept records, prepared the student logs, and kept student profile sheets on each child tutored. The structured tutoring involved the diagnosis of the child's reading skills, individual work with the child using prescribed teaching methods, and a criterion posttest measuring the knowledge of the child at the end of the tutoring. The tutored group outperformed the control group in acquiring basic reading skills, and of the 54 students who were tutored, only one failed to make a significant improvement in reading skills during the relatively short period of six weeks that the tutoring program was in operation. Statistical data, cost analysis information, and implications for further study are included in the report. (TO)

AN EMPIRICAL INVESTIGATION OF THE USE OF PARAPROFESSIONALS AND STUDENT TUTORS IN REMEDIATING READING DEFICIENT PRIMARY GRADE STUDENTS[1]

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[1]Presented at the American Educational Research Association Annual Meeting in Chicago, Illinois, April 1974.

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Each year, millions of children in the United States begin school with keen anticipation. They want to go to school and they want, most of all, to learn to read. For some children, this feeling of liking school persists during their entire school experience. But for approximately 20 per cent of the children in the United States, those who fail to learn to read in the first grade, a failure syndrome seems to set in. This becomes apparent to sensitive parents and teachers when they see their children's attitude change from one of liking school to outright aversion to the entire school environment.

Schools have traditionally been organized and operated to accommodate the educational advancement of the average and above-average student. Curriculum content has largely lacked appeal and meaning to those persons who are less academically inclined. School activities and social life programs have often failed to involve those with the greatest need; their reward systems have failed to motivate the disadvantaged student and have instead, often intensified his sense of inadequacy and failure.

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In impoverished homes where there are no books or magazines, children's interest in reading is understandingly limited. These children seldom experience the motivation derived from the discovery that they can read successfully. Even though they may have the same range of abilities and potential talents as more advantaged individuals, they usually have greater difficulty reaching their potential and they usually need supportive services, curricular modifications, and specially trained personnel in order to achieve satisfactorily in school.

One of the most pressing problems in elementary education today is the exceedingly high percentage of children with severe reading difficulties. Estimates vary widely but several authorities (Harris, 1965; Bakwin, 1966) have suggested that between 10 and 15 percent of the elementary school population is at least two years behind grade level.

Reissman (1962) notes disadvantaged children experience more than ordinary fear of failure, especially in the school setting. He speculated that when these children meet people whose standards appear unachievably higher than their own, a sense of paralyzed inadequacy impairs their effort and frustrates any hope of matching such ideal figures.

Teachers throughout Idaho and across the nation are faced with increasing numbers of students who lack basic skills needed to attain success in day-to-day academic pursuits. The recently completed Idaho Needs Assessment and the Needs Assessment of the Boise Schools indicate clearly that many students, particularly those from low socio-economic status homes have serious difficulty mastering basic reading skills and soon develop a poor attitude (affect) toward reading specifically, and

toward school generally. Traditional approaches to remediating children who do not learn to read in the first grade have been largely ineffective. As a result, problems compound for a child who enters the second grade without being able to read adequately.

Educators generally support the idea that greater success is encountered in remediating reading deficiencies if they are identified and treated at an early age. Individual tutoring as a major approach in teaching children to read is as old as Socrates; but the training of non-professionals as tutors is a more recent happening.

Recent research (Blank, 1969; Solomon, 1971; Congreve, 1969; Harrison, 1972) has demonstrated that low-achieveing students do not learn unless teaching-learning experiences are highly structured and are sensitive to individual differences in children. Thus far, it has not been possible to create this type of learning environment independent of a tutorial relationship. For example, Blank and Solomon found that when instruction was highly structured and provided on a one-to-one basis daily by a tutor, significant gains were realized by disadvantaged students. It may be argued that any one-to-one situation may produce similar results. However, when the experiment was repeated without highly structured interaction between the student and the tutor, there was no significant change. Blank and Solomon further suggest that the relationship with an involved and warm adult might be the missing link to learning; but that in order to achieve significant cognitive gains, the time and training must be highly structured.

Yutzy (1973) states that "Tutor training is probably an essential ingredient in any tutorial program. Tutoring skills are not instinctive but are rare--requiring techniques that only a few teachers were taught or had the opportunity to learn."

Gartner, Kohler, and Reissman (1971) reported that from Rome to California there was mounting evidence that children learn more from teaching other children. Lippitt, Lippitt, and Reiseman (1969) have reported studies using cross-age tutoring programs (junior high students tutored elementary grade pupils) and reported teacher-observed gains in socialization among the older children and assistance to the younger children. They estimated that since 1968, more than 200 programs had been started with youth tutoring youth.

It was interesting to note that the programs reporting the most significant gains had developed training programs for the tutors, using moment-by-moment instruction, based on established principles of learning and on the techniques of programmed instruction with individualized help.

In a series of experiments conducted over the past four years, pertinent findings by Grant Harrison (1968-72) have shown that tutoring, per se, does not benefit learners in most instances. While in sharp contrast, it has been demonstrated that if tutoring is approached in a highly structured way, students can benefit a great deal from individual tutoring. This particular approach to tutoring has become known as the Harrison Structured Tutoring Program (1971). Dr. Harrison's model is based on validated learning theory and proven techniques of teaching.

In 1972, using Title I funds, a study was initiated to determine the effects of using teacher aides (paraprofessionals) and student tutors in remediating reading deficient primary grade students in the Boise Schools.

The Boise School District serves a rapidly changing community--a community that is changing in size, economics, and social structure. On one hand there is growing pressure, particularly from Boise's new residents, for the school to change to meet some new expectations about what is taught and how it is taught. On the other hand, a traditionally conservative element is proud of its school system, quite satisfied with the accomplishments and somewhat edgy about rapidly rising costs of education.

The Boise Schools serve approximately 23,000 students, half of whom are elementary pupils. They have many success stories but they also have their share of pupils who are not experiencing success in school. A 1970 study indicated that 1,500 children would be retained that year and would have to repeat a grade. The Board of Trustees was appalled at the cost, both in money and damaged egos of children and teachers alike. In the opinion of many patrons and educators, retention, as an educational solution, was being used for far too many children.

Many attempts had been made to improve the situation. A corrective reading program was started in 1966 using reading specialists who worked with children in small groups on a referral basis. Additional speech therapists were hired to assist children with language development problems. Learning disabilities classes were initiated in 1968 to provide additional help for those children with the most severe learning problems.

Approaches such as individualized instructional programs, programmed learning, open-classroom concept, team teaching, and continuous progress programs were initiated. These were limited, to some degree, by facilities, money available for remodeling, instructional materials, which failed to meet the wide range of abilities encountered. . . . and teachers who were not trained in individualized instructional methods. In addition, teachers disagreed with the suggestion that they should change either their philosophies, their methods, or their retention policies. They expressed concern for their many children with reading problems but they didn't feel that relaxing retention policies or adopting the open classroom concept was the answer. "There simply aren't enough hours in the day to give the children the individual attention they need," was their plea.

A number of teachers realized their students could use extra help each day in mastering course work and in learning to read; many had initiated buddy systems and asked for volunteers to tutor some students.

In his article, "Learning for Mastery," Bloom (1968) takes the position that if every student had a very good tutor, most students would be able to learn a particular subject to a high degree. He then goes on to define some of the attributes of a "good" tutor: " . . . tutoring should be available to students as they need it . . . the tutor should be skillful in detecting the points of difficulty in the student's learning, and should help him in such a way as to free the student from continued dependence on him."

It was reasoned that if the ideal espoused by Bloom was ever to

be realized in Boise, a source of tutors would have to be found, and the tutors would have to be trained. Selek (1971) explains that tutors, in the past, have had to use existing textbooks, methods and techniques and while they realized their need for training, to their disappointment, professional educators did not leap to assist them.

In order to produce enough tutors for the Boise Schools, it was determined that two things would have to be done; funds would have to be provided to hire tutors, or tutors would have to be found who would not require salaries. It was also known that once the tutors were found, there had to be some mechanism to insure that students were being instructed in a way that would facilitate learning. Merely providing a student with a tutor no more guarantees that a student will learn than traditional methods do, unless the interaction between the tutor and student is highly structured, and based on proven psychological principles of learning.

After much study and many meetings, the Title I Parents' Advisory Council developed these basic tenents in planning a pilot tutoring program in two Title I Schools:

1. Children learn best from other children and adults on a one-to-one basis.
2. Volunteers are dynamic human resources who can help children improve their reading skills, but in order to make the most effective and efficient use of their time, specific training is necessary.
3. Tutors are most effective when they are systematically trained.

4. When older students are trained and serve as tutors, they also make significant gains in reading skills. Fifth and sixth graders at the elementary school level provide a reliable, available, and consistent tutoring task force.
5. A tutoring program should not infringe on the time of the classroom teacher of either the tutor or the tutee. It was believed that teachers were already using their best skills, energies, time and effort in their classrooms, and further, that they should in no way be burdened with additional duties as a result of the tutoring program.
6. An Aide or Tutor Manager (paraprofessional) was considered to be essential for the management of the program in each school. She was also responsible for maintaining files and records and communicating with staff members and parents.
7. As each of these schools received the services of an elementary counselor and a reading specialist, these individuals would be encouraged to participate in the training program and work as team members with the Tutor Manager.
8. For purposes of gathering replication data, it was decided to conduct the pilot program in two schools having a widely diverse school enrollment, Whitney School, one of the largest elementary, and Madison School, the smallest were chosen as the target schools for a small Title I

Incentive Grant titled "Structured Tutoring---A Systematic Approach to Reading Improvement."

The major focus of this pilot program centered on improving the reading skills of second and third grade students through the use of trained paraprofessionals and student tutors from the fifth and sixth grades at Whitney and Madison Schools. Both schools were located in areas having a high incidence of low-income families which, in a community such as Boise, can be as much of a barrier as race, color, or culture. Persons whose economic status or cultures kept them apart from the mainstream of life, found the gravest difficulties in finding employment, and achieving economic self-sufficiency; partly because they tended to lack the job skills of an intellectually based economy. While poverty and unemployment were problems of economic and social patterns, they gravely affected homelife and hence, a child's self-image, aspirations, and views of the world.

Selection and Training of Tutors

In order to implement the program, two Tutor Managers (paraprofessionals) were hired to serve at Whitney School, which had an enrollment of 531 students; and one Tutor Manager was hired for Madison School with an enrollment of 131. The term, Tutor Manager, was used to describe their functions, rather than the term, Aide, as their duties were different. The Instructional Aide usually served under the direction of the teacher; the Tutor Manager supervised and managed the tutoring program for her school. Functions, in addition to those delineated by the Title I

Committee, were: to train fifth and sixth grade children in the techniques of tutoring basic reading skills; to tutor children; to give pre-posttests; keep records; prepare student logs; and to keep student profile sheets on each child tutored.

The need for supervision and management of the student tutorial system can not be overemphasized. It requires the full time services of a person who is not encumbered by additional responsibilities and commitments, and who is well trained in tutoring techniques and basic reading skills. The Tutor Managers were trained in the use of structured tutoring by Dr. Grant Harrison, John Wilkinson, and Reba Keele of the Brigham Young University Instructional Research and Development staff. The "Supervisor's Guide for the Structured Tutorial Reading Program" (Harrison, 1972) was used as the major source book.

The three day, high intensity learning workshop included bringing specific skills to mastery through the use of a comprehensive criteria check sheet. Supervised role play, immediate feedback, and mastery checks were administered each step of the way. Adult tutors and student tutors performed diagnostic pretests under supervision and used follow-up techniques prescribed by Dr. Harrison. Trainees were observed while performing each of the tasks learned in the training, and evaluated as to whether of not he/she had mastered the techniques. On-going evaluation was obtained by keeping a check sheet of student progress on each student and the activities of tutors were recorded on student logs and were checked frequently to verify consistency in the tutoring.

The subjects, selected from the two Title I Schools, were in the lower 40% range of reading ability according to a standardized test. Some students were referred by teachers on the basis of teacher observation of basic reading skill deficiency.

Tutoring Procedures

Structured tutoring in reading involved the diagnosis of the child's reading skills, individual work with a child using prescribed teaching methods, and a criterion posttest which measured the knowledge of the child at the end of tutoring. Children to be tutored were given a diagnostic pretest measuring their skills in naming letters, producing the sounds of letters, dipthongs, and digraphs, reading sight words, and decoding skills. On the basis of performance on the pretest, individual tutors began working with the subjects on specific reading skills as prescribed in Harrison (1972).

The actual tutoring involved four basic steps. First, the tutor showed the child how to perform the skills. Secondly, the tutor rehearsed the skill with the child until he felt confident that the child knew the skill, then the child was given a mastery check in which he was asked to produce the name or sounds of letters, read sight words, or decode words, depending upon the skill he had been learning. If the child passed the mastery check, he went on to learn new material, if not, rehearsal was repeated. Several days after a child passed a mastery check, he was given a review check on the skill he had learned. This check allowed the tutor to determine how much the child had mastered and to reteach the skill, if necessary.

A pretest posttest control group design was employed to test the effects of the tutoring treatment on the learners' cognitive skill development. A statistically similar control population was used to assess differences between mean learning gains of the treatment and control populations. All children received the regular classroom reading. The tutored group outperformed the control group in acquiring basic reading skills and of the 54 students who were tutored, only one child failed to make a significant improvement in reading skills during the relatively short period of six weeks that the tutoring program was in operation.

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Insert Tables 1 and 2 about here

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Presenting the Data

Mean scores on the 44 item Criterion Test of the children tutored in the two schools were compared with mean gain scores of the pretest-posttest scores of the statistically similar control group who received no tutoring.

The mean gain differences between the tutored and control students with sight words in both schools (Whitney and Madison Elementary) were significant beyond the .01 level. In Madison the ability of the students to decode was significantly different at the .01 level and at Whitney at the .001 level. As is readily apparent, the addition of a relatively short period of structured tutoring time resulted in a significant amount of reading subskill acquisition.

TABLE I

Madison School

Summary of Pretest, Posttest, and Learning Gain Scores

	Sounds[1] (33)*			Sight Words (200)*			Decoding[2] (61)*		
	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain
Adult Tutored (N=9)	19.9	32.9	13.0	150.2	165.5	15.3	23.7	47.7	24.0
Student Tutored (N=11)	21.2	32.2	11.0	148.7	170.7	22.0	15.3	46.8	31.5
[3]Control Group (N=37)	23.4	26.6	2.2	138.8	145.4	6.6	19.4	21.6	2.2

Whitney School

Summary of Pretest, Posttest, and Learning Gain Scores

	Sounds[1] (33)*			Sight Words (200)*			Decoding[2] (61)*		
	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain
Adult Tutored (N=23)	17.9	25.0	17.1	96.7	112.8	16.2	10.1	20.8	10.7
Student Tutored (N=16)	23.4	30.1	6.8	85.1	118.8	33.7	18.4	36.8	18.4
[3]Control Group (N=25)	25.1	26.1	1.1	114.9	120.3	5.4	21.0	16.8	(4.2)

[1]Sounds include the consonant sounds, short or regular sounds of the vowels, and seven (7) common digraphs.

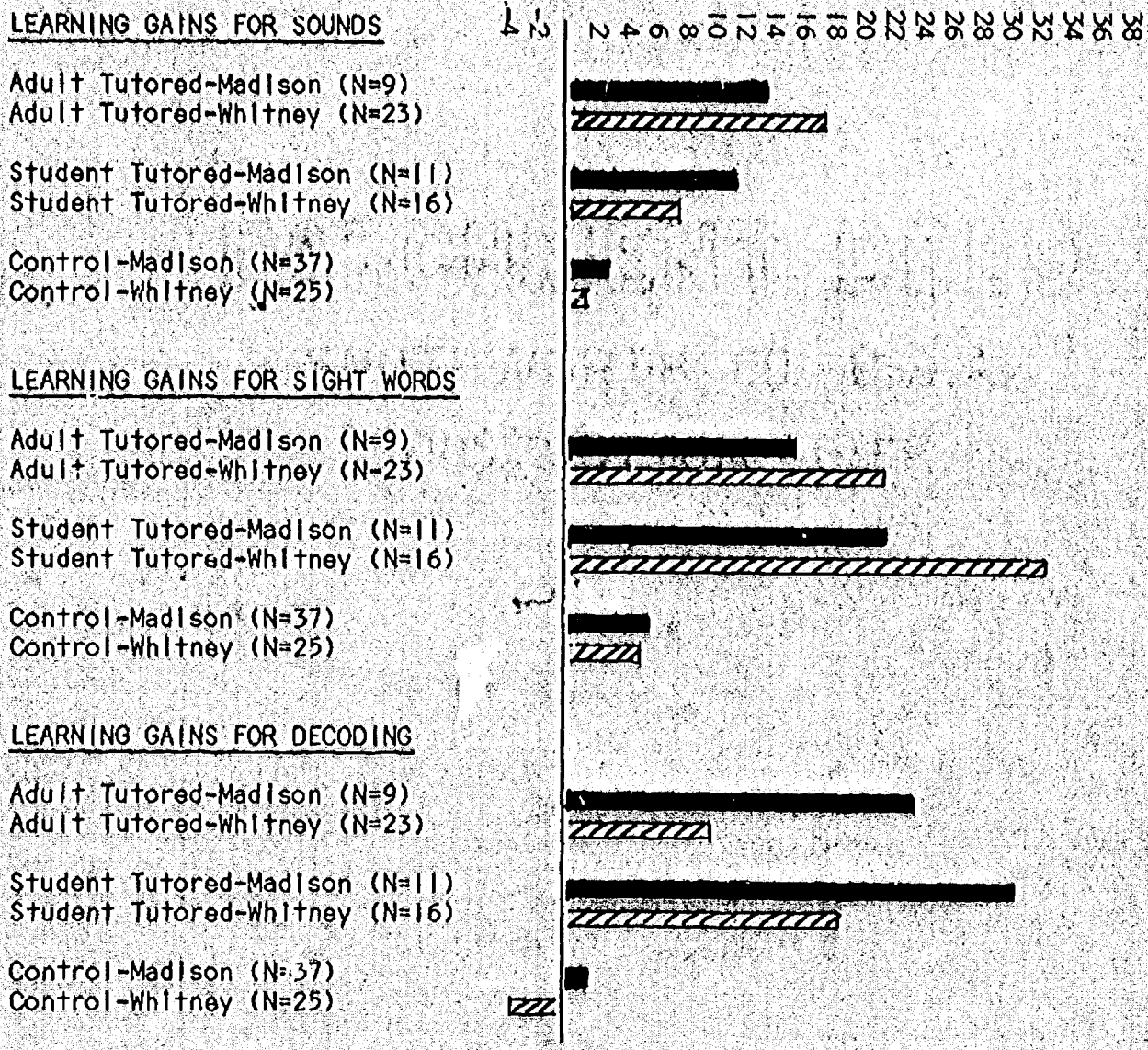
[2]Decoding is defined as sounding out previously unencountered phonetic words. Nonsense words are used.

[3]The control group was taken from a school other than these Elementary Schools in order to obtain a group of subjects which were similar to those being tutored as determined by pretest.

*Number in parenthesis at head of columns is the number possible

TABLE 11

GRAPHICAL SUMMARY OF DATA



Another t-test run between the tutored and control groups (selected from the pool) demonstrated that these groups were sufficiently similar, prior to special tutoring, to be able to use both groups in comparisons.

The positive response of the tutored children to the tutoring program was evidenced in many ways throughout the study. Several characteristics accounting for the response were: (a) the consistent individualized attention, (b) the consistent verbal praise, (c) the high expectation of success built into the program, (d) the fact that most of the children were able to read their first story in two or three weeks, (e) the rapid progress the program made possible, (f) the insurance that the child had mastered one objective before he was allowed to move to the next objective, and (g) the special recognition the child received for success.

The significance of the data in this study, both cognitive and affective, must be viewed in relationship to the amount of time spent with the learners. The average number of tutor sessions (15 minutes in length) was 22 which means the average total instructional time per child was only 5.5 hours. These gains were reported as a function of time which is critical to a remedial reading child.

The cognitive gains are only a part of the gains realized. According to teacher observations, learners and tutors also benefited in the way the students perceived themselves and the way the parents perceived their children. An informal survey at the conclusion of

our study indicated that teachers, principals, and parents thought there were significant improvements in children's attitude toward reading, toward school, and toward the social responsibility which older students showed for younger children on the playground.

Insert Table III about here

Implications for Further Study

For a child, the inability to read turns a classroom into a nightmare. The older he becomes, the more he is shut off from the activities of his classmates; he is daily embarrassed and often humiliated when he is called upon to read aloud and thus expose his ignorance to the scrutiny of his peers. Concerned teachers, in desperation, search for new approaches, new methods, and individualized materials in an attempt to meet the many learning styles of their young charges.

Harrison (1972) points out much that has been written about the use of individualized instruction as a vehicle for remediating low achieving children is based on the assumption that children will be motivated, can attend to a task set for them, and read directions. Typically, however, when commercially individualized materials are used, high ability children forge ahead and low achieving children fall further behind as they are incapable of working independently, and have short attention spans. Furthermore, the failure syndrome which sets in early, precludes the expected motivation.

Reading is of primary importance because it is the one category

TABLE III

SUMMARY OF RESULTS OF QUESTIONNAIRE GIVEN TO A RANDOM SAMPLE OF PARENTS OF TUTORS

1. Did your child mention to you that he was a tutor at school?
   Yes - 14 No - 0
2. Did he seem pleased to be a tutor?
   Yes - 14 No - 0
3. How willing were you to allow your child to spend time tutoring a younger student?
   Not willing - 0 Somewhat willing - 0 Very willing - 14
4. Does your child talk about his experiences as a tutor?
   Yes - 12 No - 2
5. How often does he mention it? --- 3 times a week or more - 9
   1 time per week - 3 less than once a week - 1
6. Have you noticed any differences in your child since he began to tutor?
   Yes - 11 No - 3
7. Question number 7 is an open ended response format. The question is, "If you noticed differences in your child, list two differences," and the following are some of the responses:
   1. Reads on his own and enjoys it more
   2. Wants to help others
   3. More confidence
   4. Better understanding of people
   5. Wants to tutor 4-year-old sister
   6. More interested in others
   7. More willing to go to school
   8. More patience with small brother
   9. More interested in progress of niece and nephew
   10. Wants to become a teacher
   11. School is more fun for him
   12. Feels important
   13. Enjoys reading more
8. If you had another child selected as a tutor, would you allow him to do it?
   Yes - 14 No - 0
9. Would you recommend that all 5th and 6th graders be given the opportunity to tutor?
   Yes - 11 No - 2
10. Do you think that being a tutor has helped or hurt your child? Please rate your answer on this scale with an X.
    Helped - 13 no change - 1 hurt - 0

of formal learning which holds the key to all others. Reading ability is the door through which all other knowledge must pass. Most people can function effectively in a complex, industrialized society with a weakness in some phase of learning. It is possible to "get by" without knowing too much math, without understanding algebra or geometry, without understanding much about science or being able to sing or dance. But, if one cannot read, one cannot even get by.

The tutoring program in Boise was expanded to 12 Title I Schools this year, 1974. This investigator believes the Structured Tutoring Program holds great promise in providing schools with an efficient and inexpensive method of remediateing reading deficient primary children. All schools have many fifth and sixth grade students who, when trained, are an undeniably rich reservoir of untapped human resources who can provide consistent motivation and help for troubled readers. Major economic considerations include the salary of one paraprofessional for each school and instructional materials, which are relatively inexpensive.

Training costs for the staff were unusually high due to the fact that this was a pilot research project and was limited to Whitney and Madison Schools. The same cost factors could be used to train the personnel from all ten Title I Target School's with a small increase being allowed for instructional materials and extra travel costs for consultants.

The salaries for the tutor managers (aides' salary range) are the most costly component of the program. However, the tutor managers are necessary to insure a smooth operation and prevent overloading the already burdened classroom teachers with additional duties.

COST ANALYSIS

Workshops and Ongoing Training

Consultants and workshop materials	2,940.00
Travel (consultants 17 flights, Provo, Utah to Boise, Idaho	1,500.00
Student instructional materials	620.00
Salaries (3 tutor managers/2months	1,677.64
TOTAL COST	6,737. 4

Participants

Student tutors	54
Children tutored	54
Children receiving Diagnostic Pretest	393
TOTAL PARTICIPANTS	501
COST PER CHILD	13.44

FUTURE STUDY

While our pilot study provided evidence to support the idea that the tutoring program was effective in improving cognitive skills, quickly, we also suspected that some important changes were occuring in the children's attitude toward school and toward reading more specifically. We hypothesized that, as a spin-off effect, we were also getting a powerful interaction between the cognitive learning and the improvement observed by teachers and parents in children's attitude toward reading as a result of the tutoring program. Therefore, a study is now under way to gather empirical evidence to test the theory (Plumb, 1974) that individual tutoring by trained tutors has a positive effect on the attitude of primary grade children toward reading.

Selection of Subjects

Primary grade students in six schools, who were in the lower 40% range of reading ability, according to a standardized test, became the pool of subjects from which the experimental and control groups were randomly selected. Approximately ten students were assigned to the experimental group and ten to the control group in each school.

It should be noted that after the "experiment" was over, that is, when the experimental group had been tutored and both the control and experimental groups had been posttested, then the "control" group was tutored. Thus, membership in the control group merely postponed the needed tutoring rather than excluding the control students completely.

Experimental Design

A pretest-posttest control group design was employed to test

the effects of the treatment on the affect of learners. This design controlled for regression as far as mean differences were concerned no matter how extreme the groups were on pretest scores, because both control and experimental groups were randomly assigned from the same pool of subjects. The design allowed for the measurement of change in the subject's attitude towards reading as a result of the tutoring program.

$$R \quad O_1 \quad E \quad X \quad O_2$$
$$O_1 \quad C \quad O_2$$

Groups were: E_1 (learners tutored by trained tutors), and C (learners not tutored in reading). Learners were randomly assigned to groups. Individualized tutoring is represented by X, O_1 represents the initial administration of the affect test, and O_2 represents the post-administration of the same test.

Research indicates many behavioral scientists and educators believe the affective effects of instruction are profoundly more important that the cognitive or psychomotor. If a child's self-concept is damaged by unsuccessful interactions with reading attempts, the effects may remain during his entire school life. At primitive levels, as well as at higher intellectual levels, it is obvious that students learn better that which they are interested in and enjoy doing. It would seem then, that concentration on basic skills, while important, is not enough. Children need also to develop concurrently, a positive attitude toward reading if they are to become proficient readers. To facilitate learning these skills,

some children must have individual, repetitive drill, based on their particular needs and learning styles. In addition, it is particularly important for them to make sufficient progress to increase their interest in, and liking for reading.

This present investigation is based on the notion that as children develop and improve their cognitive skills in reading they also tend to like to read--if the process of learning the skills has been a pleasant experience with positive conditions. Most educators would agree that when experience with a school subject is followed by a positive (pleasant) consequence, the probability is increased that the subject will be approached very readily in the future. When, on the other hand, experiences with a subject is followed by aversive (unpleasant or painful) consequences, the probability is reduced that the subject will be approached voluntarily in the future. Bloom (1971) believes a student's adequacy in a given set of learning will determine how he approaches the next task in a learning continuum or school subject. If his performance has been adequate, he will approach the next task with confidence and assurance that he can do it well--and he may even develop a desire for more such tasks. They are easy to do, they can be learned, and they may even be likable tasks because they can be mastered, solved, and overcome. However, if his past experiences have been painful enough, the task will be avoided, approached with little enthusaism and, if anything, marked dislike...failure (inadequacy) in a school subject effectively closes it for further consideration.

As a result of the present study, information will be developed which should demonstrate:

a. there is a powerful interaction which occurs concurrently between the development of cognitive reading skills and attitude toward reading;

b. paraprofessionals and cross-age tutors who have been trained in structured tutoring procedures can become an important and inexpensive adjunct to regular classroom instruction in developing cognitive skills and a positive attitude toward reading in primary grade children. The Harrison Structured Tutoring Method used in this study, represents to some extent, procedures, techniques, and principles of learning which have been identified primarily with programmed instruction. In addition, provisions are made for consistent and frequent positive reinforcement which might be described as "praise, praise, and more praise." In effect, it is a form of individualized instruction which is capable of monitoring both the oral response and the student's behavior while solving a problem.

A secondary purpose of the study, although of necessity a prior

component of the study, timewise, was to discover a way to measure attitude toward reading in young children. Extensive research to discover existing measurements was unprofitable because of the heavy dependence pencil and paper tests have on reading ability, and the fact that, for the most part, these children were nonreaders. Therefore, it was necessary to design a test (Kay-Van Mondfrans, 1973) which would measure attitude toward reading in this group of children. This information should be valuable to teachers as a monitoring and evaluating device. Expectations were that the study would also provide educators with an additional criterion in selecting and choosing reading materials for the regular classroom instruction, as most of the reading programs currently on the market have not been examined in terms of the effect on student affect to insure that the subject will be approached voluntarily in the future.

A primary focus of the study then, assuming the assumptions are validated, is to disseminate the information gathered to perhaps influence others in the need not only to become aware of the powerful interaction occuring between cognitive development and attitude improvement; but also to search for ways to alter negative attitude through positively reinforcing teaching techniques.

Learning to read is a crucial skill worthy of the great amount of time and money spent on teaching it in the schools, but educators, for the most part, do not yet seem to be aware of the powerful interaction between the cognitive and affective domains in teaching children to read. Such information, properly disseminated, might prove to be a major breakthrough in assuring the "Right to Read for children everywhere," as coined by former United States Commissioner of Education, James E. Allen.

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