ABSTRACT
        This review of the literature on student tutoring
considers four questions: 1) are there patterns of cross-age,
cross-culture, or cross-ability which increase or decrease the
tutoring effectiveness? 2) does a highly-structured, controlled
program mean better results than informal tutoring? 3) is the level
of learning actually raised for both tutor and tutee? and 4) are
there types of subject-matter areas which more readily lend
themselves to the tutoring process? A list of positive results
experienced by tutors and tutees was synthesized from studies
reviewed, and the requirements for evaluating the programs were also
considered. Outlines for tutorial manuals were developed and are
included in the document for organizers, tutorial managers, and
tutors. Included are the following appendixes: 1) specifications for
individualized instruction, 2) the essential elements of the
structured tutoring model, 3) principal reasons why many low
achieving students do not succeed in school, 4) principal reasons why
the unique learning characteristics of low achieving students cannot
be dealt with successfully in the regular classroom setting, and 5)
basic components of a tutorial system. There is an annotated
bibliography of 71 items. (MBM)

STUDENT INVOLVEMENT IN THE INSTRUCTIONAL PROCESS

THROUGH TUTORING

by

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INTRODUCTION

The literature of the last several years reports the growing interest of schools and projects in carrying out programs in which students tutor students. This is one mushrooming activity coming out of the general concensus that students benefit from being involved in the instructional process. The variety found in the variables of these programs is touched upon in Thelen's statement:

> The purpose seems to be to help the tutor, the tutee, or both. Compared to the tutee, the tutor may or may not be older, brighter, or more maladjusted; of a different socioeconomic class; or attend the same school.[1]

Different view points are found underlying the structure of these programs. The important part of these programs is the "me-to-you" thrust of the teaching.

Dr. Herbert Thelen of the University of Chicago observes that rarely does anything of an innovation remain after the innovator leaves, but he expresses optimism that student tutoring may be a focal point for change. He expresses his belief that student tutoring depends on:

> . . . an entirely new kind of interaction among students under conditions such that revealing feedback can be obtained by the teacher. It calls for teachers to cooperate across grade lines in an enterprise to the advantage of both. It invites recognition of all sorts of individual characteristics of pupils that are usually ignored; and it makes creative thinking about lesson plans and activities the norm

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[1]Herbert A. Thelen, "Tutoring by Students," _The School Review_, LXXVII (September - December, 1969), 229.

rather than the exception. It is also likely to interest and involve the parent group, thus creating a reference group or "imaginal audience" whose expectations will help maintain action.[1]

Dr. Thelen comments further concerning the tutoring program and observes:

Today's new element is the anticipation of benefits to the tutor. It is hoped that he will develop his own academic skills or understanding further, as he employs them to teach another; that he will form a better character (e.g., attitudes), become better adjusted or more adequate as a person, discover new interests or commitments for his life.[2]

Educators are recognizing the growing need for providing individualized instruction (Appendix A). A promising resource for the individualization of instruction and for changing the learning climate of the classroom lies in the children themselves. Success has come from the use of elementary school pupils to assist each other in learning. High school boys and girls, particularly those with academic problems of their own, have shown a willingness and eagerness to do something worthwhile, something which they can do and has merit. The one-to-one relationship between the older student and the younger pupil provides each an experience which contributes to personal growth. For the older student, he gains first-hand knowledge of what it means to help another person with a problem. He acquires some insight into the role of the teacher and this knowledge, if nothing else, should make the educational process more meaningful for him. For the younger child, the program permits the individual instruction which educators recommend but seldom have been able to arrange Besides the academic gains, the children are engaged in a relationship which may be unique in their lives.

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[1] Thelen, "Tutoring by Students," p. 239.

[2] Ibid., p. 229.

The structure of the classroom climate in which these students assist one another is one aspect of the tutoring situation now receiving attention. Some educators who are exploring the dynamics of the helping relationship structures which can be fostered in the classroom are doing so because they believe that education is living, not just preparation for life, and the experiences in our classrooms should reflect this belief.[1]

CONCERNS OF THE STATE DEPARTMENT

The State Department of Education posed four questions for consideration as the literature was reviewed. The questions and the studies related to the questions follow.

1. Are there patterns of cross-age, cross-culture, or cross-ability which increase or decrease the tutoring effectiveness?

The studies reviewed by this researcher included programs designed to utilize cross-age, cross-culture, or cross-ability. No study reported their pattern of matching tutor to tutee producing negative results. A seven-year study in operation in California which is seeking to build a tutorial community includes in its planning: intragrade student tutoring, intergrade student tutoring, student self-tutoring, teacher tutoring, and tutoring by parents and other volunteers.[2] Cloward reports there is a growing belief that important contributions to the educational development

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[1] Herbert A. Thelen, Learning by Teaching, Report of the Helping Relationship Conference, University of Chicago, December, 1969 (Chicago: University of Chicago, 1969), p. 2.

[2] Ralph J. Melaragno and Gerald Newmark, "A Tutorial Community Works Toward Specified Objectives in an Elementary School," Educational Horizons, XLVIII (Winter, 1969), 35.

of culturally disadvantaged children can be made by other young people

whose life experiences provide a basis for empathy with the population

being served.[1] Another study, sponsored by two evaluation centers at

UCLA, concluded:

> Often when a tutoring program is initiated, teachers assume that
> only the most capable students should be used as tutors. However,
> this study has demonstrated that the achievement level of the tutor
> seems to make little difference in the amount of learning attained by
> the tutee, whereas there are significant differences in the gains
> made by the tutors. Thus the findings of this investigation support
> the recommendation that low-achieving students make effective tutors
> of younger disadvantaged children, and at the same time, profit con-
> siderably themselves.[2]

Ronald and Peggy Lippitt from the University of Michigan are two

members of a team of social scientists who have carried out research

testing ways of developing a program which would stimulate older students

and at the same time train them to help meet the needs of younger students.

The "Cross-Age Helping Program" evolved from this work. They conclude that

the cross-age approach "is effective in causing constructive behavioral

growth and preventing the development of behavioral problems."[3]

2. Does a highly-structured controlled program mean better results
   than informal tutoring?

Recent literature speaks clearly and forcefully to this point.

Niedermeyer studied the effects of training on the instructional behavior

of student tutors and concluded:

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[1]Robert D. Cloward, "Studies in Tutoring," The Journal of Experi-
mental Education, XXXVI (Fall, 1967), 14 quoting Henry Salzman, "The Poor
and the Schools," in New Careers for the Poor: the Non-Professional in
Human Service, ed. by Arthur Pearl and Frank Riessman (New York: Free
Press, 1965), pp. 39-54.

[2]Stanley Frager and Carolyn Stern, "Learning by Teaching, " The
Reading Teacher, XXIII (February, 1970), 417.

[3]Ronald Lippitt and Peggy Lippitt, "Cross-Age Helpers," National
Education Association Journal, LVII (March, 1968), 24-6.

. . . that the instructional behaviors of trained and untrained
tutors are quite different. The instructional behaviors implied by
the objectives of a training program should be based on established
psychological principles. If it is desired that tutors behave accord-
ing to these principles then they should be trained.[1]

Grant Von Harrison, while working with Systems Development Corpora-

tion, developed materials for training students to tutor. He observed:

. . . that those tutors who had been trained with the package demon-
strated greater mastery of the skills than those who previously had
been trained to use the skills on a piecemeal basis while they were
working with a learner. Tutors who were trained with the package dem-
onstrated more confidence than those who had been trained a little at
a time.[2]

The structured tutoring model (Appendix B) was an outgrowth of his earlier

findings.[3] An effective system of structured tutoring must include two

components: (1) Tutors must be trained in very specific skills and not

left to their own devices, (2) Careful assessment prior to instruction,

during instruction, and following instruction with adequate reporting of

student progress must be an integral part of the system.

A field test of programmed and directed tutoring was carried out

in the Indianapolis Public Schools. The authors reporting this research

state not all tutoring programs are equally effective. They conclude the

kind and amount of tutoring and the characteristics of the children tutored

are critical factors.[4] This study considered two type of tutoring:

[1]Fred C. Niedermeyer, "Effects of Training on the Instructional
Behaviors of Student Tutors," The Journal of Educational Research, LXIV
(November, 1970), 122.

[2]Grant Von Harrison, Training Students to Tutor, (Santa Monica,
California: Systems Development Corporation, 1967), p. 7.

[3]Grant Von Harrison, Structured Tutoring (Provo, Utah: Division
of Communication Services, Brigham Young University, 1971).

[4]D. G. Ellson, Phillip Harris, and Larry Barker, "A Field Test of
Programmed and Directed Tutoring," The Reading Research Quarterly, III
(Spring, 1968), 341.

(1) Programmed tutoring, a technique derived from learning principles and programmed instruction in which details of the tutors' activities were tightly controlled by a prescribed sequence of materials and procedural rules which were highly responsive to the individual child's (reading) performance, and (2) Directed tutoring, derived from current teaching theory and practice which was less structured; activities and progress were determined to a greater degree by the tutor's judgment.[1] While children at all levels of ability benefited, the improvement in achievement was markedly greater for children who have the greatest difficulty in learning to read in the classroom.[2] The analysis showed that the type of tutoring had a significant effect on all measures of reading achievement, with differences favoring programmed tutoring in every case. Number of tutoring sessions had no significant effects on achievement scores.[3]

3. Is the level of learning actually raised for both tutor and tutee?

The amount of empirical research supporting conclusions of studies and the sophistication of the design of the studies found in the literature varied but conclusions were harmonious in stating that the tutor and the tutee gained from the program. The Oneida Consolidated School District of New York involved high school tutors in the learning experiences of elementary school students. The authors concluded "the most obvious and immediate impact of the program has been on the high school tutors. Participation in the venture seemingly has reinforced qualities of self-reliance

[1]Ibid., p. 307.

[2]Ibid., p. 341.

[3]Ibid., p. 331.

and self-confidence."[1] Speaking of the elementary pupils they felt the changes were two-fold:

First of all, the classroom teachers stated that the pupils being tutored showed considerable improvement in their academic performance, particularly in rote-type operations, e.g., multiplication, division. Secondly, the pupils involved had more positive attitudes towards school and their studies.[2]

The learning problems of disadvantaged children in American class-rooms (Appendices C and D) has been the content focus of volumes of today's literature. Tutoring as a means of assisting in meeting the needs of the disadvantaged student is creating much excitement for many educators. The program HELP designed for disadvantaged children of Jersey City, New Jersey involved disadvantaged high school tutors as elementary reading teachers. Reported conclusions are:

The high school students profit as much from the program as do the needy grade school children. The high school students learned that they have something significant to contribute, that they measured up to the task, and that they were needed. There is no substitute for being needed, and for a genuine feeling of achievement.

The grade school children gained considerably from the program. Exactly what and precisely how much was difficult to determine. It was clear the children had marked attitudinal changes toward reading. The children began to look for things to read; some became enthusi-astic about telling others what they had read. The regular school teachers said they noticed a marked difference in the attention of the children in the regular classes after the HELP program started.[3]

The Homework Helper Program developed by Mobilization for Youth, the Lower East Side antipoverty agency of New York was the focus of an article in the New York Times:

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[1] Stanley E. Bell, Norene L. Garlock, and Sam L. Colella, "Students as Tutors," The Clearinghouse, XLIV (December, 1969), 244.

[2] Ibid., pp. 243, 244.

[3] Timothy P. Rossi, "HELP: Students Teach Students," Reading Improvement, VI (Fall, 1969), 48.

. . . A study of the program released last year by Columbia University School of Social Work found that the tutors from slum areas not only helped their pupils but also made great improvements in reading themselves. The tutees showed a 6.2 month gain in their reading levels after five months. A control group that had no tutoring showed the usual slum school rate, a 3.5 month gain in the same period. The tutors improved even more than their pupils. In a seven-month period their mean gain in reading level over their control group was a year and seven months.[1]

Some studies place under-achievers in the teaching role and report both the learner and the tutor make significant progress.[2] Mention has also been made in this summary that the children having the greatest difficulty in the classroom setting were the ones showing the greatest improvement in achievement (Ellson, Harris, and Barker). Further observations by these authors noted "that scores for tutored children were shifted upward across the board, the positive effects were much greater for children with the poorest achievement.[3]

4. Are there types of subject-matter areas which more readily lend themselves to the tutoring process?

This researcher spent weeks locating and reviewing every available work in the literature written about the student tutoring experience. This review leads to the conclusion successful tutoring is not dependent upon the type of subject matter areas so much as it is upon certain conditions being met in the tutorial program and in the tutoring experience. Robertson's study of the effects of intergrade tutoring experiences on tutor self-concept reported high probability that positive attitudinal effects will

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[1]Thelen, "Tutoring by Students," p. 231 quoting New York Times, October 29, 1967.

[2]Cloward, "Studies in Tutoring," p. 24 and Frager and Stern, "Learning by Teaching," p. 403.

[3]Ellson, Harris, Barker, "A Field Test of Programmed and Directed Tutoring," p. 333.

be realized for both the tutor and the learner regardless of the context

or complexity of the subject matter or learning tasks.[1] In a short but

very complete paper providing information by which a project can plan and

operate a successful training program, Hazel-Ann Isgar states:

> For a program to be effectively planned and executed, the goals
> need to be clearly defined and articulate. Therefore, before any
> steps are taken to plan a tutor training program, a decision about
> the goals and purposes of the program should be reached. The objec-
> tives for each training series will vary depending upon the type of
> tutoring program. . . . Each program has its unique structure and
> goals. If these are not clear to tutors from the beginning, problems
> will arise when the staff is attempting to accomplish one thing and
> tutors something different.[2]

A study interested in the disadvantaged child was carried out in

a public school in the Bedford-Stuyvesant section of Brooklyn, New York.

Although this study was investigating the problem of motivation in school

learning, it is relevant to this question. The authors stated:

> . . . , certain circumstances must be met if the tutoring is to be
> effective. The basic requirement is a clear understanding of pre-
> cisely what a child knows and what he does not know. . . .
>
> Analysis of the pupil's skills requires parallel analysis of the
> subject matter being taught. . . .
> . . . .
> . . . the subject matter must be viewed as a sequence of planned
> tasks instead of solely as a body of materials to be covered.

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[1]Douglas J. Robertson, The Effects of an Intergrade Tutoring
Experience on Tutor Self-Concept, Paper presented at the 49th Annual Con-
ference of the California Educational Research Association, San Diego,
April 30, 1971.

[2]Hazel-Ann Isgar, Tutor Training (Washington, D.C.: Tutorial
Assistance Center, 1966), p. 3.

[3]Lillian Zach, Vivian Horner, and Judith Kaufman, "Tutoring in a
Slum School," The Elementary School Journal, LXX (October, 1969), 25.

[4]Ibid., p. 27.

VALUES OF THE TUTORIAL PROGRAM

One of the previous questions spoke to the issue of the tutorial program's ability to raise the learning level of the tutor and tutee. The various materials found by the researcher indicated many advantages gained by the tutor and tutee which are of a nature other than the academic achievement. The following list of positive results experienced by tutors and tutees is the outcome of synthesizing the many studies reviewed in preparation for writing this summary.

1. Tutors experienced the development of their own sense of adequacy. Self-respect and self-esteem became realities for many individuals who previously saw themselves as non-contributing members of their class or group.

2. Tutors have found a meaningful use of subject matter. Shame no longer accompanies the study of "skills" several years below the tutor's grade level. Their need for mastery of subject matter so they can help their tutee causes the tutor to assimilate subject matter better and to seek to learn more of it.

3. Giving the tutor the opportunity to take an adult role and receive the status of teacher or helper leads him to experience what it is like to be a part of a meaningful and productive society.

4. Tutors develop insights into the teaching-learning process and can cooperate more effectively with their own teachers.

5. The amount of teaching taking place in a classroom is increased as tutors give attention to individual needs within the classroom.

6. Individualized instruction, as mentioned earlier, is the result of the tutor giving his full attention to the tutee and responding to him without worrying about anything else going on around them.

7. The tutor provides the companionship and individual attention needed by many younger children who otherwise feel insecure and alone.

8. Tutors have been known to "reach" children teachers had not been able to reach. The tutee is closer in age to the tutee, he speaks the tutee's language. The performance of the tutor is a more realistic goal for the tutee than the skills and standards of the teacher.

Evaluation plays a vital role in the value of the existing tutorial program to the needs of the students in the program, successful revision of an existing program, and contribution of an existing program to the improvement of education for the students of the American schools. The one objective of evaluation is to ascertain whether desired goals were actually achieved by the utilization of means already proven effective.[1] Evaluative instruments are:

1. Informal observations
2. Interviews
3. Questionnaires and surveys guided by common sense interpretations of objectives
4. Change in grade point average (report cards)
5. Inventory sheets requiring the checking off of objective behavior patterns
6. Rating scales and objective check lists
7. Sociometric devices
8. Personal documents such as autobiographies and diary records
9. Use of cummulative records to evaluate several areas of development
10. Pre- and post-testing in subject areas, personal adjustment areas and attitude and interest areas
11. Case studies

Numbers one through three are instruments that simply require the observer, interviewer, and questioner to look in a systematic way for common sense evidence of the objectives sought. Numbers four through eleven are instruments that will probably require some form of trained assistance, at least in the initial stages of evaluation if not throughout the entire evaluation process.[2]

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[1]James S. Noce, _Research and Evaluation in Tutorial Programs_ (Washington, D.C.: Tutorial Assistance Center, 1967), p. 5.

[2]_Ibid._, p. 7.

Because of his belief that few people understand the meaning of the terms "research" and "evaluation" or the methods by which these processes can be accomplished, James Noce prepared the booklet already quoted. He further recommends:

> . . . , that the decision as to which instrument or set of instruments best suits a particular project's evaluation needs be made in conjunction with trained assistance. It is also strongly recomme led that even after the decision has been made to use a less sophiscated measure that trained assistance be retained at least for the initial stages of evaluation. This is in no way an over cautious recommendation but one based on several sound considerations. First, any measuring instrument, no matter how simple, must be well constructed, reliable, and valid before it becomes operational. For example, when using questionnaires and surveys it is most important that they be easily read and understood and that they actually tap the kind of information sought in an unbiased and consistent manner. To do this may very well require trained and experienced evaluators working on the initial formulation and standardization of the measuring instrument.[1]

Researchers who are working with the data that is generated from the California school in which a tutorial community is being established have distinguished between the evaluation of students and the evaluation of instruction. Their requirements for evaluating instruction are important in the considerations of establishing a tutorial system.

> Evaluating instruction requires the preparation of statements of objectives in behavioral terms, the development of criterion instruments and procedures that provide precise, quantitative measures of performance on each important objective, and the preparation of a detailed description of the instructional system to which test results can be related. Evaluating instruction leads to improvement of instruction by providing an empirical basis for making needed modifications.[2]

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[1]Ibid., pp. 7, 8.

[2]Melaragno and Newmark, "A Tutorial Community Works Toward Specified Objectives in an Elementary School," p. 37.

TUTOR TRAINING

Evidence from the studies reviewed strongly confirms the need for adequate training of the tutors prior to service and during the tutoring process to be a top priority item. Authors of some of the studies already cited in this summary mentioned facets of the tutor training section of their programs. The following have been selected as sources of information that would be of significance in the planning of tutorial programs. Cloward describes the two aspects of the focus of the preservice training given four afternoons a week for two weeks by Mobilization for Youth:

> . . . (1) attention was given to the goals of the tutorial program, the organization of the program, and the duties of a tutor, and (2) characteristics of the youngsters they would encounter, the scholastic levels at which these pupils would be operating, and the kinds of activity in which tutors might engage their pupils during the first few meetings.[1]

Melaragno and Newmark's explorations have shown the importance of four aspects of tutoring that will be emphasized. They are:

> . . . (1) careful diagnosis of each learner's needs, (2) provision for a rich variety of instructional materials appropriate for meeting learning needs, (3) training of tutors in their roles, (4) evaluation of tutorial effectiveness in terms of cognitive and affective growth of both learners and tutors.[2]

Frager and Stern report that the UCLA Study which concerned itself with two forms of counseling tutors taught certain basic principles of learning to the tutors during counseling sessions. Examples of these are:

> . . . (1) the tutor was to look for observable evidence that the child tutored could, after instruction, do something which he had been unable to do before, (2) the tutor was to use a task analysis

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[1]Cloward, "Studies in Tutoring," pp. 14, 15.

[2]Melaragno and Newmark, "A Tutorial Community Works Toward Specified Objectives in an Elementary School," p. 35.

approach to determine which of the component skills the child already possessed before introducing new material, (3) the tutors were taught the value of extrinsic and intrinsic rewards as motivation to promote learning, (4) tutors were presented the idea that punishment, while it may suppress behavior, is not an effective way to produce new learning, and (5) tutors were impressed with the need for providing the learner with immediate feedback to inform the child whether his response was correct or incorrect.[1]

SUGGESTED CONTENT FOR TUTORIAL MANUALS

A tutorial program will need manuals for the tutors, the tutorial manager and the organizer of the program. A part of the responsibility of the organizer of the program is the training of the tutorial manager. As organizers train tutorial managers who will then train tutors, it becomes essential for the manuals to repeat content. The second time an item is listed in the outline of a manual in this summary the detailed description of that item will be omitted and the reader will be referred to the first mention of that item.

The following outlines for manuals are developed from the review of the literature.

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[1]Frager and Stern, "Learning by Teaching," pp. 404, 405.

I. <u>ORGANIZER'S MANUAL</u>

A. Behavioral objectives identified for the system - if an objective includes a hierarchical sequence of skills for its accomplishment then enabling objectives will be identified

B. Management procedures for a tutorial program

    1. Selecting student tutors

    2. Scheduling tutoring sessions - <u>Student Assignment Sheet</u>
The student assignment sheet will provide spaces for the following entries: (1) Name of tutor, (2) Name of the student the tutor is assigned to work with, (3) Name of the student's teacher, (4) Number of the student's home room, and (5) Instructional prescription that has been made for the student.

    3. Tutor Evaluation - <u>Tutor Evaluation Sheet</u>
Accurate records should be kept on the progress which tutors make as they interact with the system. Tutor evaluation sheets will assist the TUTORIAL MANAGER in determining the effectiveness of given tutors, to identify weaknesses and problems when they arise, and to provide directions in assisting in overcoming weaknesses which tutors may evidence.

    4. Student progress records - <u>Student Profile Sheet</u>
                                                <u>Tutor Log</u>
When students are working towards the accomplishment of specific objectives, there must be a very specific and accurate record kept of their progress. This record must be available to the students to enable them to see the progress they are making. The Profile Sheets will be capable of depicting the following information: (1) The date each pretest is administered to individual students, (2) Student's performance on each pretest, (3) Instructional prescriptions made and the date of the prescription for individual students, (4) The date mastery of each objective is achieved by individual students, and (5) The date each posttest was administered and student's performance on each posttest.

The Tutor Log will provide a means of making the following entries: (1) Date of each tutoring session, (2) Tutoring activity for each session, and (3) Any learning gains achieved in each session.

    5. Procedures for preparing individualized instructional prescriptions

C. Description of the correct procedure for administering tests - these tests will measure the behaviors specified in the objectives

1. A diagnostic pretest - this test is prepared from the objectives stated for the system. This test will identify those skills which the student has not yet acquired. Based on his performance on the pretest he will be directed to specific learning activities rather than be required to take all learning activities. In this way, focus is on the specific weaknesses that the student may have and he can be directed to instructional materials specifically designed to overcome these weaknesses.

2. Criterion referenced posttest - these tests are tied directly to the objectives identified for use in the tutorial system. These tests determine how well the student performed in relation to the objectives rather than in relation to other students. A criterion level will be specified and some minimal acceptable performance identified so that when the student has passed a criterion referenced test at a given level we will know the kinds of skills which he has acquired as a result of the instruction.

D. Materials designed to help the TUTORIAL MANAGER train tutors Complete instructions for tutors in the use of these tutoring materials must be in this manual. A complete understanding of these materials and their use must be accomplished in the training of TUTORIAL MANAGERS.

1. Tutoring home study materials - these are the materials which the students who will serve as tutors may take home with them and study prior to coming to a tutor training session. These will include both reading and programmed materials. It has been found in the past that this type of self-study material makes the tutor-training sessions much more effective than when students come to these sessions completely unprepared.

2. Tutor role-playing guides - these materials are designed specifically to help a tutor practice the skills in a training session which he will use when he is serving as a tutor. These guides will assist the tutors in acquiring both the one-to-one interaction skills (sitting down one-to-one with a student to help him acquire specific skills) and the small group discussion skills which will be required by the instructional materials (materials given to both the student and the tutor during a structured discussion session on specific topics). General tutorial skills which must become automatic for the tutor can be studied through this same manner.

3. Tutor training session guides - are materials designed to structure the tutor training sessions to review with the tutors the materials acquired in home study and to give directions for the use of tutor role-playing materials.

4. Instructional materials designed to train the tutor in
   general tutorial skills

   a. Correct use of positive reinforcement
   b. The ability to put a student in a tutoring situa-
      tion at ease
   c. Ability to avoid over prompting of the student

5. Instructional materials designed to train the tutor in
   specific tutorial skills
   These skills will be dictated by the content to be studied
   and the tasks identified by analysis as necessary for
   mastery to be achieved.

II. <u>TUTORIAL MANAGER'S MANUAL</u>

It has been found with previous studies that unless TUTORIAL MANAGERS are carefully trained it is difficult to train and manage tutors. Training materials must be prepared to instruct the TUTORIAL MANAGERS in effective procedures for training tutors and in managing the tutorial system.

A. Management procedures for a tutorial program

    1. Selecting student tutors
    2. Scheduling tutoring sessions - <u>Student Assignment Sheet</u>
    3. Tutor evaluation - <u>Tutor Evaluation Sheet</u>
    4. Student progress records - <u>Student Profile Sheet</u>
                                    <u>Tutor Log</u>
    5. Procedures for preparing individualized instructional prescriptions

B. Instructional materials TUTORIAL MANAGERS must be skilled in using

    1. Scope and sequence chart of the behavioral objectives
    2. Descriptions of the correct procedure for administering the tests designed for this tutorial system - these tests will measure the behaviors specified in the objectives

        a. Diagnostic pretest
        b. Criterion referenced posttest

C. Tutor training materials - including complete instructions for tutors in the correct use of the following tutor-training materials

    1. Tutoring home study materials
    2. Tutor role-playing guides
    3. Tutor training session guides
    4. Instructional materials designed to train the tutor in general tutorial skills

        a. Correct use of positive reinforcement
        b. The ability to put a student in a tutoring situation at ease
        c. Ability to avoid over prompting of the student

    5. Instructional materials designed to train the tutor in specific tutorial skills

III. TUTOR'S MANUAL

A successful tutoring system must include tests and instructional materials which are used by the tutors to teach learners. Tutors must be trained in both general and specific tutoring skills. Management procedures related to the tutor's responsibilities must be carefully explained and incorporated into the tutor's behaviors.

A. Outline of the tutor training sessions

B. Instructions for the use of the tutor home study materials

C. Instructions for the use of the tutor role-playing guides

D. Instruction in the use and value of the following management procedures

1. Scheduling tutoring sessions - Student Assignment Sheet
2. Tutor evaluation - Tutor Evaluation Sheet
3. Student progress records - Student Profile Sheet
   Tutor Log

E. General tutoring skills

1. Correct use of positive reinforcement
2. Ability to put a student in a tutoring situation at ease
3. Ability to avoid over prompting of the student

F. Specific tutoring skills

G. Behavioral objectives - scope and sequence chart

H. Description of the correct procedures for administering the tests and interpreting the test results

1. Diagnostic pretest
2. Criterion referenced posttest

APPENDIX A

Specifications for Individualized Instruction

1. Pre-established instructional objectives

2. Valid diagnostic tests

3. Instruction that is prescribed based on performance on diagnostic tests

4. Management procedures capable of assuring that individual students receive the instruction they need efficiently

5. Management procedures capable of systematically checking for mastery of both enabling and criterion objectives and modifying instructional prescription as necessary

6. Management procedures capable of systematically monitoring the student's behavior while they receive the instruction (e.g., Does the student attend to the stimulus? What is the student's error rate? Is the student consistently receiving confirmation for correct responses? Is the student responding before receiving feedback? Is the student progressing at a rate commensurate with his abilities?)

7. Management procedures capable of providing individual students clarification and direction immediately

8. Valid criterion tests

APPENDIX B

The Essential Elements of the Structured Tutoring Model

1. Pre-established instructional objectives which are not being effectively reached by some students using existing instructional practices

2. Instructional sequence of objectives specified

3. Valid means of assessing a given student's mastery of the pre-established instructional objectives

4. Instructional materials commensurate with the instructional objectives and designed to promote the behavior found weak or missing from the student's repertoire by the pretest

5. Validated tutoring techniques and procedures that (1) apply to any goals and any materials, and (2) are based in the specific goals of the program and the instructional materials being used

6. Management procedures capable of making instructional prescriptions for the individual student based on pretest performance

7. Management procedures capable of assuring that individual students receive instructional prescriptions sequentially

8. Management procedures capable of systematically checking individual students' mastery of instructional prescriptions through validated criterion tests prepared in advance of instruction

9. Management procedures which provide for modification of instructional procedures when mastery of an instructional prescription is not achieved by individual students

APPENDIX C

Principal Reasons Why Many Low Achieving Students

Do Not Succeed in School

1. Low motivation

2. Lack of adequate individualized help at home

3. Their ability to work independently is limited

4. They require more clarification and explanation regarding procedures and directions

5. They are extremely reluctant to request individual help or clarification

6. They are unsure of themselves because of repeated failure

7. They are prone to respond impulsively

8. They learn how to get the teacher to provide them answers by means of subtle clues, which results in them not learning the desired concept, task, etc.

9. They require more appropriate practice with a new task than an advantaged student

10. Learning is not approached in small increments and systematically

APPENDIX D

Principal Reasons Why the Unique Learning Characteristics

of Low Achieving Students Cannot be Dealt with

Successfully in the Regular Classroom Setting

1. Because of time restraints the learning needs of low achieving students are not identified precisely enough

2. In a regular classroom setting it is extremely difficult to provide individual students additional clarification and explanation regarding procedures

3. It is humanly impossible for a teacher to monitor the behavior of students individually during a learning activity

4. In a regular classroom setting it is extremely difficult for a teacher to provide individual students additional appropriate practice on a new task

5. A teacher of necessity gears her instruction to the majority

6. There is a limit on how much specific feedback a teacher can provide individual students

7. There is a limit on how much reinforcement and encouragement a teacher can give individual students

APPENDIX E

Basic Components of a Tutorial System

1. Specifications on how to administer pretests and posttests, select student tutors, and maintain necessary records

2. Pretests (These must be capable of providing a valid measure of the child's ability to deal with the specified instructional objectives)

3. The following record sheets: Individual Profile Sheet, Tutor Assignment Sheet, and the Tutor Log

4. Tutor Training Materials (This includes the home study materials for tutors, any charts used, and the trainer's dialogue)

5. Instructional materials (This includes the flashcards, practice sheets, or books the tutors use when they work with a learner)

6. Posttests (These should be criterion referenced, prepared in advance of instruction, and must be valid measures of mastery of the objectives)

7. Scope and sequence chart of instructional objectives

8. An adult supervisor conversant with all the specified management procedures, pre- and posttesting procedures, tutoring techniques and procedures, and all aspects of record keeping

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This paper is based on the author's experiences at the Hyde Park Neighborhood Club Study Center. Hyde Park is an integrated community in the vicinity of the University of Chicago with a grass-roots organization studying and working on community problems. This study center opened in September, 1962 and in November, 1962, the individual tutoring program was added to the library and homework facilities of the Center. The author prepared this paper from the experiences of this group and uses the paper as orientation for new tutors in the program, many of whom do not have teaching experience.

Melaragno, Ralph J., and Newmark, Gerald. A Study to Develop a Tutorial Community in the Elementary School. Santa Monica: Systems Development Corporation, 1969.
A promising resource for helping to individualize instruction and for changing the learning climate in the classroom that has received attention recently is the student himself--the use of elementary school pupils to assist each other in learning. With proper training and support from adults, children are able to function effectively in the role of helpers and teachers of other children. For maximum impact and effect on education, the tutorial concept must be broadened and extended so that the total climate of learning is changed in such a way as to significantly affect all children, at all grade levels. The authors of this study propose to create a school in which students at every grade level interact with other students as learners and as tutors, one in which the traditional barriers and distinctions between teacher and learner are broken down (since every individual in the community is both teacher and learner). This study is designed to continue over a seven-year period.

. Tutorial Community Project: Report of the First Year May, 1968 - June, 1969. Santa Monica: Systems Development Corporation, 1969.
The Tutorial Community Project is an attempt to take full advantage of the educational potential promised by the use of student tutors and related innovations. It is an attempt to change an entire elementary school of 1800 students into a functioning "tutorial community," a prototype model of a new kind of school from which others may learn and gain experience that will help them introduce changes to their own schools. The initial plan was to develop these three areas gradually over a seven-year period starting with kindergarten and adding one grade at a time, year by year. But as a result of the first year's experience, described in this report, this plan has been revised. TCP activities are now being introduced to the entire spectrum of grades--K through 6. This change has not altered, however, the three basic lines of development: (1) tutoring and related learning activities, (2) encounters, or intensive group discussion at the feeling as well as thinking level, (3) community-school involvement activities. Only the manner in which they are implemented has been changed.

Melaragno, Ralph J., and Newmark, Gerald. <u>Tutorial Community Project:</u>
<u>Report of the Second Year July, 1969 - August, 1970.</u> Santa Monica:
Systems Development Corporation, 1970.
    The original proposal for the Tutorial Community Project
contained two general goals: (1) the establishment of a model,
prototype, Tutorial Community School, (2) the development of pro-
cedures for implementing tutorial community concepts in other
elementary schools. It was expected that Pacoima Elementary School
would be the prototype model, and that additional schools would
become involved in order to develop the subsequent dissemination
and implementation procedures. This two-year report states in
light of the past two years' experience at Pacoima and the fact
that much has been learned and achieved which is readily export-
able to other schools, it appears highly appropriate to expand
the Project to one other school in the near future and begin devel-
oping implementation procedures. It also seems highly probable
to those working with this study that the more complete tutorial
community model will occur more rapidly in the next school.

Robertson, Douglas J. <u>The Effects of an Intergrade Tutoring Experience</u>
<u>on Tutor Self-Concept.</u> Paper presented at the 49th Annual Confer-
ence of the California Educational Research Association, San Diego,
April 30, 1971.
    This study investigated the effects that an intergrade
tutoring experience had on the self-concepts of fifth grade
students who were trained to tutor first graders in the attain-
ment of sight words. The results of the study indicated that
experience as a tutor was a powerful independent variable. Fifth
grade student tutors developed significantly different and more
positive self-concepts as measured by the semantic differential.
Subjects who were trained to tutor but were withheld from tutoring
and the control subjects did not develop significantly different
and more positive self-concepts.

    . <u>The Effects of an Intergrade Tutoring Experience on Tutor</u>
<u>Attitudes Toward Reading and Teachers.</u> Paper presented at the
49th Annual Conference of the California Educational Research
Association, San Diego, April 30, 1971.
    The purpose of this study was to assess the attitudes of
fifth grade students who performed as tutors in an intergrade
tutorial program toward the concepts: (1) READING and (2) TEACHERS.
Fifth graders identified by their classroom teachers as low
achievers in reading were trained to tutor first graders in sight
word instruction. The results of the present study indicated that
experience as a tutor was a powerful independent variable. Fifth
grade student tutors developed significantly different and more
positive attitudes toward the concepts: (1) <u>Reading</u> and (2) <u>Teachers</u>.
Subjects who were trained to tutor but were withheld from tutor-
ing and the control subjects did not develop significantly differ-
ent and more positive attitudes toward the same concepts.