

TUTORING: SOME NEW IDEAS

Carol Taylor Fitz-Gibbon

CSE Report No. 121

July 1978

Center for the Study of Evaluation
UCLA Graduate School of Education
Los Angeles, California 90024

This Project was supported in whole or in part by the National Institute of Education, Department of Health, Education, and Welfare. However, the opinions expressed herein do not necessarily reflect the position or policy of the National Institute of Education, and no official endorsement by the National Institute of Education should be inferred.

TABLE OF CONTENTS

Preface	i
Acknowledgements	iv
CHAPTERS	
I. Introduction	1
II. Three Learning-by-Tutoring Projects	4
* The Learning-Tutoring Cycle	4
* The Morning-as-Teacher (MaT) Semester	6
* The Learning-by-Tutoring (LT) Mini-School or Stratified SWAS	10
* A Possible Developmental Sequence: How the Models Might Spread	12
* Students for Whom the Models are Appropriate	13
III. Reactions of Teachers and Parents to the Proposed Projects	14
* Assessing Teachers' Attitudes	14
(a) Presentations to Faculty Meetings	14
(b) A Cross-Age Tutoring Conference	22
* Assessing Parents' Attitudes	29
IV. Ideas for Components That Can Be Added to Any Tutoring Project	34
* Community Tutor Certification Program	34
* Paid Summer Tutoring	35
* A Tutor Effectiveness Monitoring System	36
* Report Cards for Tutoring	40
* A Tutoring Bureaucracy	41
* Three Tier Tutoring	42
APPENDICES	
A. Elementary and Secondary School Faculty Questionnaires	45-48
B. Description of the CSE Reports on Tutoring	49
REFERENCES	

List of Figures

Figure 1. Three implementations of the basic idea of Learning-by-Tutoring 2

Figure 2. Responses of inner-city elementary school teachers to the question: What do you think of the idea of having a whole class of secondary school students come to tutor an elementary school class? 16

Figure 3. Responses to Item #4 on the questionnaire for elementary school teachers 17

Figure 4. Responses of inner-city secondary schools to the question: What do you think of the idea of learning by teaching? 20

Figure 5. Responses to Item #4 on the questionnaire for secondary school teachers 21

Figure 6. Descriptions of four tutoring programs 23

Figure 7. Mean ratings of four tutoring programs 24

Figure 8. Summary of Parent Questionnaire 32

List of Tables

Table 1.	Responses to "Would you like your class to receive secondary school tutors on a regular basis?"	15
Table 2.	Summary of responses to "Suppose that for some reason you are thinking of running a cross-school tutoring program. Which of the following kinds of support would you most like to have?"	18
Table 3.	Responses to the question: "Would you like to take one of your classes to tutor at a nearby elementary school on a regular basis?"	19

PREFACE

The National Institute of Education (NIE) is the agency of the Federal government that is specifically funded to conduct research in education. When the Education Amendments of 1974 were enacted, NIE was directed to prepare studies of compensatory education in order to assist Congress in making decisions regarding the future of efforts to improve the education of disadvantaged youth. The studies were mandated with a view to the reauthorization deliberations for Title I of the Elementary and Secondary Education Act (ESEA), scheduled to take place in 1977.

In connection with these studies, contracts were let for surveys of existing compensatory education programs, analyses of existing data on program effectiveness, research into the implications of alternative criteria for fund-allocations, and research on the administration of compensatory education. In addition, NIE requested "a systematic and interdisciplinary effort to explore alternatives to current practices in education." Four contracts were let for "Alternative Designs to Contrast with Current Practice in Compensatory Education." Each contractor was to produce "a plan of action which is deemed superior to current practice and not prohibitive in cost of implementation."

One of the contracts went to the Center for the Study of Evaluation for a proposal concerned with cross-age tutoring as a means of enhancing the learning and motivation of the tutors (in contrast to current practice in which the learning of the tutee is the primary focus).

An interdisciplinary committee of ten persons was established to meet regularly at UCLA. In addition to working with this committee, project staff undertook to develop an examination of current school practice by means of site visits and detailed questionnaires in schools conducting cross-age tutoring projects. Because the persons who ultimately implement innovations are the instructional staff, it was important to obtain their reactions to the proposed projects. Presentations were made at faculty meetings in inner city schools, followed up with questionnaires, and a small conference was held at which it was possible to obtain more detailed feedback.

Following these activities, an interim report was submitted to nine reviewers selected by NIE. Committee members and reviewers subsequently met together for two days of round-table discussions.

The production of a single final report would have been an inappropriate way of presenting the body of information that project staff had at hand following these activities. For example, much information that would be of interest to teachers and parents planning or running tutoring projects would not be of interest to policy makers and vice versa. Furthermore, although the position had been reached that one particular kind of tutoring project--the Learning-Tutoring Cycle (LTC)--should be recommended for widespread implementation in Title I projects, there was much to be said about the planning of tutoring projects in general and about highly innovative projects which, although not as immediately feasible as the Learning-Tutoring Cycle, could have greater impact if implemented.

In view of this need to speak to various audiences about diverse topics such as theories, research, policy, practical planning and innovative ideas, six separately bound volumes were prepared:

- Report A. The Learning-Tutoring Cycle: Overview
- CSE Report No. 122. Setting Up and Evaluating Tutoring Projects (formerly Report #1)
- CSE Report No. 118. A Survey of Tutoring Projects (formerly Report #3)
- CSE Report No. 121. Tutoring: Some New Ideas (formerly Report #4)
- CSE Report No. 117. An Examination of the Literature on Tutoring (formerly Report #5)
- CSE Report No. 116. Tutoring and Social Psychology: A Theoretical Analysis (formerly Report #6)

These reports provide an information base and a rationale for actions at both federal and local levels.

Three reports--the Survey, the Literature report, and the Social Psychology report--bring together information from a wide range of sources to provide background knowledge concerning current practice, the perceptions and recommendations of practitioners,

past projects, research, and relevant theories. This background knowledge can inform the design of tutoring projects as well as provide a basis for judging the likelihood of success of such projects. For example, the Social Psychology report demonstrates that many of the effects of tutoring widely noted by practitioners, but not yet established by research on tutoring, have their parallel in recognized effects in the field of Social Psychology. Social-Psychological theories thus suggest variables that can be assessed in research on tutoring and lend support to the perceptions of practitioners.

The other two numbered reports apply the background information to practical school planning concerns. CSE Report No. 122 deals with the process of setting up and evaluating tutoring projects in general. The report is organized around a series of planning questions and provides step-by-step suggestions for setting up a cross-age tutoring project. Report No. 121 deals with extensions of the idea of learning by tutoring to more ambitious projects, representing more substantial changes in schooling than are involved in the LTC project. It also documents the reactions of instructional staff and some Title I parents to the Learning-Tutoring Cycle and other proposed kinds of projects.

For the national level, Report A provides an overview of the project and recommendations for action. The actions recommended are designed to put the ideas of this study to the test, to see if the Learning-Tutoring Cycle can indeed significantly improve the educational attainment of disadvantaged students.

ACKNOWLEDGEMENTS

This study has benefitted immeasurably from the thoughtful contributions of many individuals. Members of the committee represented diverse backgrounds and professional experiences, and their deliberations were invariably stimulating and challenging.

Members of the Committee

- Harry F. Silberman (Co-Principal Investigator)
Professor of Education
UCLA
- Marvin C. Alkin
Professor of Education
UCLA
- Ron Apperson
Legal Adviser
Los Angeles Unified School District
- Dorothy Bradshaw
General Secondary Curriculum Consultant
Compton Unified School District
- Erick Lindman
Professor of Education
UCLA
- Neil Malamuth
Professor of Psychology
UCLA
- Gerald Newmark
Co-Director
Educational Communications Corp.
- Floraline Stevens
Coordinator, Research and Evaluation
Los Angeles Unified School District
- Richards Williams
Research Associate
Center for the Study of Evaluation

We were fortunate in having two ex-officio members of the committee who attended meetings because of their long-standing interest in Tutoring: Elbert Ebersole, formerly Principal, Soto Street Elementary School and now a developer of materials for cross-age tutoring in reading; and Arthur Elliott, a professor on sabbatical leave from Simon Fraser University, Canada. Their contributions were of great value to the project staff and to the committee.

The round table discussions with members of the NIE review team and the receipt of their carefully considered written comments on the interim report led to significant shifts of emphasis in the project, and the author is most grateful for their substantial and thoughtful comments.

Members of the NIE Review Panel

- Bill Anderson
Coordinator
National Coalition of Title I Parents
- Larry Barber
Asst. Supt., Research, Development & Evaluation
Eugene Public Schools
- Sophie Bloom
Reading Coordinator
Chicago Public Schools
- Linda Glendening
Research Associate, Measurement & Methodology Division
National Institute of Education
- Philip Hawkins
Special Assistant for Planning
Michigan Department of Education
- Gerry Hendrickson
Education Program Specialist
Department of Health, Education & Welfare
- Gwyn Jones-Davis
Director
Antioch Communion University
- Robert Lipscomb
President
Alabama Education Association
- David Weikert
President
High-Scope Education Research Foundation

Special thanks are due to the many persons working in schools who met with project staff, conducted site visits or responded to the lengthy questionnaire. Likewise, the teachers and administrators who attended the conference or gave us valuable feedback at their staff meetings are offered sincere appreciation for their contributions.

Richard Mallory of the National Education Association was so kind as to comment extensively and most helpfully on a draft report. The incredible efficiency of Donna Anderson Cuvelier and her great interest in the project provided indispensable daily support. For contributions and guidance throughout the study, the author thanks most particularly Harry F. Silberman and Jack Schwille.

CHAPTER I

Introduction

For some years now, funds for compensatory education have been allocated primarily to elementary schools, to the neglect of secondary schools. The hope was that early intervention would prevent later problems. Such expectations do not seem to have been fully realized; early gains may be quickly lost if students cease to be in effective school programs (Larson & Dittman, 1975; Larson, 1976), and many secondary school students are still in need of practice in the basic skills that are first taught in the elementary schools. Other problems in secondary schools--violence, vandalism, and boredom --may well be related. It is highly significant that two recently proposed bills (H.R. 9662 and S 1440) to curb violence and vandalism in schools not only would provide funds for security systems but also for developing alternative forms of education. This proposed legislation, following extensive hearings, indicated a clear recognition that the existing option--traditional school organization--is inadequate for many students.

A simple idea holds great promise as a means of reaching adolescents who need to learn basic skills: have these students tutor elementary school children in basic skills. The tutors will learn by teaching, and the younger students will benefit from receiving individual attention. In the following pages, three proposed projects are described that build upon this idea of Learning-by-Tutoring (see Figure 1). All the projects involve secondary school students in the role of tutor.

The first project--the "Learning-Tutoring Cycle"--can be implemented classroom by classroom with little change in school routine. The second--the "Morning-as-Teacher Semester"--necessitates a commitment of teachers and space to a significant innovation that provides secondary school students with a semester of intensive work as tutors. The third project--the "Learning-Tutoring Mini-School or Stratified SWAS"--involves constituting a mini-school or a School-Within-A-School (SWAS) around the concept that every child can benefit both from being a tutor and from receiving tutoring. The description of these three projects constitutes Chapter II.

The Learning-Tutoring Cycle: Secondary school classes prepare curriculum modules at their own school and then tutor at the elementary school for a 2 or 3 week period. They then return to their own school to prepare the next curriculum module. A cycle of 3 weeks of tutoring and 1 week of preparation is feasible.

The Morning-as-Teacher Semester: Secondary school students spend one semester in an intensive integrated program built around tutoring. The secondary students report to a specified room at the elementary school for a full morning of tutoring and tutoring-support activities. This replaces all their required academic subjects. They report to their own school for afternoon P.E. and electives.

The Learning-by-Tutoring (LT) Mini-School or Stratified SWAS.* A mini-school is built around the concept that the best way to learn something is to teach it. In this school, most of the teaching is done by students while the staff devote their skills to diagnosis, prescription, and certification, employing a continuous progress curriculum framework in major academic areas. Only three grade levels are enrolled in each mini-school. These grade levels are separated from each other by three missing grades. Thus a mini-school might start out with grades 1, 5 and 9 only. The clear differences in age and maturity of the three grade levels is expected to have a strong impact on students. Older students will see the need to help younger students, to accept responsibility and to set a good example (i.e., provide admirable role models).

*SWAS = School-Within-A-School

Figure 1. Three implementations of the basic idea of Learning-by-Tutoring

The reader may wonder how teachers and parents react to these proposed projects. Because this report was prepared as part of a study of compensatory education, the ideas were tried out among teachers and parents of inner-city schools. Chapter III describes their reactions.

Chapter IV describes several innovative components that can be added onto any kind of tutoring project--not necessarily one of the projects described in Chapter II.

CHAPTER II
Three Learning-by-Tutoring Projects

The Learning-Tutoring Cycle

The Learning-Tutoring Cycle can easily be implemented by any secondary teacher who can find (a) a way to get students to a nearby elementary school each day and (b) cooperation from a teacher or administrator at the elementary school. The Learning-Tutoring Cycle is a method of running a regular secondary school classroom (e.g., a math class). Students in an LTC classroom receive initial instruction from their teacher in a clearly defined unit of the curriculum (for example, addition of fractions). The instruction teaches them not only the content of the unit but also methods for teaching the content to younger students. This is the learning part of the cycle and might take, for example, 2 weeks. The tutoring part of the cycle occurs when, instead of practicing the unit in the classroom, the students are taken to a nearby elementary school where each student teaches the work to a "tutee" in a room or rooms specially prepared for tutoring. This tutoring is closely supervised by the secondary teacher who can provide immediate help to any tutor who has forgotten how to teach something, needs some materials, is having trouble with the tutee, etc. At the end of a time period appropriate for the unit (for example, 3 weeks), the achievement of tutors and tutees is assessed by the supervising teacher, and tutors receive feedback regarding their performance as tutors, feedback that might be as concrete as a report card. Another Learning-Tutoring Cycle then commences with a new unit of curriculum.

The methods used to provide the tutees may vary. The "intact-class" method of providing tutees consists of pairing one whole elementary school classroom with the secondary school class of tutors either for the duration of one unit of instruction, i.e., for one "cycle," or for longer periods. The receiving teacher (the elementary teacher) meets regularly with the sending teacher to ensure articulated methods and content of instruction. The receiving teacher might also be involved directly in the training of the tutors. Both teachers supervise the tutoring sessions. To accommodate both the sending and receiving classes, a spare room is needed at the elementary school in addition to the

receiving teacher's classroom. The spare room should be specially prepared for regular tutoring. Carrels for the tutor-tutee pairs are helpful. Given a surplus of tutees, some tutors can work with two tutees instead of just one; given a surplus of tutors, some tutors become substitutes for those who are absent; other spare tutors provide back-up services, like passing out supplies or grading papers.

Instead of working with intact classes, tutees might be pulled out of various classes to receive tutoring. One method is to pull half the children from each of two elementary school classrooms. For the elementary school teachers, the promise of having their class sizes cut in half for 30 minutes or more per day is probably an attractive proposition: while tutees are gone, the remaining students can get special help from the teacher. This method increases somewhat the communication-coordination problems and does not permit regular supervision of tutors by the receiving teachers. Furthermore, there is a danger of children being discontented about being left in class or about being pulled out to receive tutoring. Such discontents can threaten the smooth functioning of a program. Nevertheless, the value to the receiving teacher of this method makes it an important one to consider.

Instead of working with intact or partial classes, tutees can be selected from several classrooms on the basis of individual learning difficulties revealed by diagnostic tests. Under this arrangement, all elementary teachers will be informed of the curriculum unit that tutors are going to be teaching. Teachers then send for tutoring those students whom they find in need of this instruction. (A diagnostic test accompanying the announcement of the curriculum unit can assist teachers in locating appropriate tutees.)

The advantages of an "intact-class" method rather than a "pull-out" method of providing tutees are that it:

- *provides two rooms* (the tutoring room and the receiving teacher's classroom) thus tending toward less crowded conditions for tutoring
- *provides closer supervision* since the receiving teacher as well as the sending teacher supervises
- *provides receiving teachers with a place in the program* so that they remain fully cognizant of the instruction their students are receiving and can provide guidance in the planning and execution of that instruction

- *simplifies communication* since the sending teacher needs to coordinate activities with only one receiving teacher
- *ensures that the elementary tutees do not feel singled out* and do not come to tutoring afraid that they are missing instruction or fun in their regular classrooms

The procedures just described, whether the intact-class method or pull-out method, can be applied whether a lock-step curriculum or an individualized curriculum has been adopted. Since lock-step methods remain pervasive, especially at secondary levels, it is worth noting that the LTC program does not depend upon locating the few teachers who have managed to institute individualized procedures. An important impact of tutoring, however, is that it can lead to the development of individualized instruction. Given independently working dyads to supervise rather than a class of 35 to teach, the teacher may find for the first time that individualization becomes possible.

The Morning-as-Teacher (MaT) Semester

In the MaT Semester the secondary school student, rather than tutoring in just one subject, spends the entire morning in the role of teacher/tutor for one semester. This intense exposure to the role of a responsible helper can be expected to affect students to an extent that just one period a day of tutoring could not match. The project might be particularly valuable as a way of turning around students who might otherwise drop out of school completely. Many non-problem students, however, could certainly benefit from the change of pace and the change of role for one semester.

Secondary school students report directly to the elementary school at the beginning of each day and spend the entire morning there. The students are located in two special classrooms set up for tutoring, and they are trained to tutor by two MaT teachers, one a math-science specialist and the other a reading and social studies specialist. For these teachers, the MaT project is their sole assignment, receiving their undivided attention. For the secondary school tutors, the Morning as Teacher program replaces all normal academic work. They return to their secondary schools at lunch time and take their P.E. and elective classes in the afternoon. The MaT teachers have the afternoon for preparation and planning.

The exact schedule of activities each morning will be determined by the teachers but should include the regular training of tutors (occupying, say, 20 percent of the time), and regular tutoring by tutors (occupying, say, 40 percent of the time). Work-skills training and practice, built around the need to manage the tutoring, communicate with parents, etc., will also occupy a substantial percentage of the time especially as the organization skills needed to keep tutoring records and schedules are learned in the first few weeks of the program.

That this Morning-as-Teacher semester will not represent wasted time should be clear when one considers the work-skills that tutors could develop in addition to the learning-by-tutoring that will occur. The work-skills provide a chance for the development of many competencies in students. One can imagine, for example:

Tutor Activities	Skills Developed
<ul style="list-style-type: none"> • Preparing written reports to parents on each tutee's progress 	<ul style="list-style-type: none"> • English skills, writing, composition • Typing
<ul style="list-style-type: none"> • Record keeping 	<ul style="list-style-type: none"> • Secretarial and office skills, filing and alphabetizing
<ul style="list-style-type: none"> • Test grading 	<ul style="list-style-type: none"> • Basic math skills: tallying numbers, averaging • Plotting graphs, accuracy
<ul style="list-style-type: none"> • Liaison with parents, teachers, the elementary school principal, and counselor 	<ul style="list-style-type: none"> • Interpersonal skills: <ul style="list-style-type: none"> --"deportment" --keeping appointments --communication skills

The basic implementation unit needed for the Morning-as-Teacher Semester is two teachers (preferably one in reading and one in math) who supervise tutors, and an elementary school willing to take part in the program. The two teachers--call them the MaT teachers--might be elementary school teachers who can teach basic skills. (Schools will need to be alert to credential problems that might arise if elementary school teachers are responsible for secondary school tutors or vice versa. Usually, however, exceptions can be readily obtained for pilot projects.)

To permit full development of tutoring skills and work skills, the two classes of tutors should have access to equipment for the preparation of materials: duplicators, paper, typewriters, envelopes, files, and so on.

Each tutor typically tutors two tutees in math and two tutees in reading each day (in four separate sessions, maintaining the one-to-one relationship). Although at the beginning of the semester tutoring will concentrate on basic skills, students may later develop mini-lessons in content areas such as the social sciences, science, or literature. These mini-lessons may be tutored or taught to small groups of children or even to whole classes.

The MaT project has some distinct advantages over the less intensive Learning-Tutoring Cycle:

1. *There is a concentration of personnel to ensure high performance from tutors.* The provision of two teachers whose sole duties are to train, prepare and supervise tutors is likely to ensure a high quality project, especially if the teachers have their afternoons free for planning.
2. *The role change for tutors is dramatic.* The allocation of a whole morning to their teaching responsibilities, the provision of space and materials, the constant assessment of tutee progress, the chance for constant development of tutoring skills, should all have a maximum impact on the secondary school students. They have a specially equipped room, are treated as responsible tutors all morning, every day. Most will respond with mature behavior and great dedication.
3. *Sufficient time is provided for diversification of tutor activities.* Maintaining interest and commitment to the tutoring task involves providing room for growth and initiative. The student tutoring in math who realizes that the tutee needs help in reading will be able to provide it. The student who would like to try counseling can work with the counselor. The student who loves to teach but has had enough of basics can develop enrichment lessons.
4. *Scheduling is simplified.* Because tutors are at the elementary school all morning, they can accommodate the elementary school time schedule with no problems. Whether intact-class tutoring or pull-out tutoring is conducted, communication will be a matter of messages between classrooms rather than between schools.

5. *The need for transportation is halved or eliminated, thus saving both time and money.* Students report directly to the elementary school rather than being transported to it. At mid-day they might need to be transported to the secondary school, but this would be a single one-way trip involving no waiting on the part of the bus. Alternatively, students might be responsible for reaching the secondary school themselves at lunchtime. (Districts implementing this program would work with their counsel to make certain that safe and defensible procedures are established for the relocation of the secondary school students at mid-day.)

6. *Tutors are more thoroughly integrated into the receiving school.* It is always important that the receiving school personnel feel a responsibility and commitment to the tutors. Tutors must not be viewed as providers of a perfect, problem-free service, to be rejected if they make mistakes. Tutors must not attend the elementary school on sufferance. By providing classrooms and staff for the tutors, they will be more readily viewed as belonging to the school. All students of a school district should be, after all, the concern of the teachers in the district.

7. *The Morning-as-Teacher Semester will be less subject to the "sink-back phenomenon."* Because the MaT project is not an add-on responsibility, MaT teachers can give the project their undivided attention and are unlikely to allow it to fade away.

In summary, the Morning-as-Teacher Semester offers secondary school students an intensive experience of spending half their school day in the role of responsible helpers in the elementary school. The MaT semester also has the virtues of involving less transportation and greatly simplifying communication and scheduling problems. The Morning-as-Teacher program rests heavily on the ingenuity of the two-teacher team to develop a curriculum which promotes tutor growth in basic skills and work skills and benefits tutees. The work skills development and basic skills practice must be perceived by teachers, parents and students as justifying the 50% time devoted to the program by tutors for one semester. Because there will be doubts as to the benefit of the program, evaluation plans, based on a clearly persuasive design, should be laid immediately before the program starts.

The Learning-by-Tutoring (LT) Mini-School or Stratified SWAS

The LT Mini-School is a small school in which students both learn and teach. The aim of this school is to produce an entire student body of youth who care for and help others and who achieve well academically. Instead of a school on its own site, the small school could be a school-within-a-school (SWAS). This option might become particularly attractive as enrollments drop in secondary schools leaving empty buildings.

There are many reasons to prefer small schools, reasons that we will not elaborate upon here. Suffice it to say that a sense of daily, immediate responsibility is probably limited in the numbers to which it can be applied: one cannot be keeper to **more brothers than one** can remember the names of, perhaps.

In order to evoke the helping, responsible behavior appropriate for the teaching roles that students will be enacting, the school will contain only three grade levels, each separated by three intervening, missing grades. For example, a school might start with three classrooms containing 1st graders in one classroom, 5th graders in another and 9th graders in another. The three age groups are distinct, making their roles clear and facilitating enactment of teaching, supervising and caring roles. The three age groups (1st, 5th, and 9th grades) move through the school together for 4 years after which time there is a new intake of students at the 1st grade level. The three age levels might be called

- prefects (9th graders)
- tutors (5th graders)
- juniors (1st graders)

When the prefects leave school after the 12th grade, the former tutors become prefects, juniors become tutors, and there is a new intake of 1st graders. Since there should be one or two classes at each grade level, maximum enrollment in the mini-school or SWAS would be 200 students. Seven to ten full time teachers would run the school with advice from the district, the community, the parents and the students.

In addition to the expectation that the clear and considerable age disparity will evoke helping behavior, it is expected that it will discourage exploitive

behavior, such as "shaking down" (as extortion on the school ground is called). Presumably, shaking down becomes increasingly reprehensible as the size of the victim decreases in relation to that of the perpetrator. Group mores against shaking down a "little kid" might prevail in the stratified school.

The advantage of having a separate site for the Mini-School rather than a SWAS would be the increased chance of instituting new behavior patterns because of the break from past surroundings and situations. The sense of a totally new school, the possibility of shared decision-making among teachers, parents and students would be enhanced. In some situations, a separate site might be practical. However, a recent trend toward establishing SWAS units might provide an approach that could succeed in a larger number of situations. Mini-schools could be established within existing high schools, junior high or elementary schools. Because of the need for the secondary school "prefects" to be offered a variety of specialized courses, the location of an LT school on a high school campus is probably preferable. To accommodate all grade levels, there could be four SWAS, one for each set of grade levels. Thus, at one high school site we might have:

	Traditional High School	SWAS-A	SWAS-B	SWAS-C	SWAS-D
Grade levels	9 - 12	9	10	11	12
		5	6	7	8
		1	2	3	4

Probably it would be best to start by adding one SWAS-LT school, such as S·W·A·S-A above. The following year, this will have become SWAS-B as the children advance a grade and a new SWAS-A could start. Note that the children stay together year after year, building a "family" or community feeling. The SWAS arrangement within high schools will become increasingly feasible as high school enrollments start dropping during the closing years of the 1970s.

The location of LT Mini-Schools on or close to high school campuses will also enable specialized high school classes to be made available to prefects in the LT school. As the original 9th graders, the "prefects," move up through 10th,

11th, and 12th grades, they will need contact with a larger peer group, more responsibility, and more specialized classes. These three needs could be met in the following way: After morning basic skills tutoring, half the prefects go to the secondary school for special classes (and contact with the wider peer group). The remaining prefects receive intensive instruction from a teacher at the mini-school and also take on more responsibilities as teachers. They work with groups of younger students, by giving lessons, demonstrations, assisting the teachers, etc. Later in the day the first half of the prefects return from the secondary school and the second half go for their specialized classes (and peer group contact). The first half then receive intensive instruction and take on teaching responsibilities.

When a mini-school is established as a SWAS within a high school, it may be necessary to physically separate the SWAS from the larger parent school to avoid social problems, but the administration of the high school must permit full sharing of special facilities and curricular options by the prefects in the SWAS.

A Possible Developmental Sequence: How the Models Might Spread

Any of the three kinds of Learning-by-Teaching projects could be implemented alone. However, a possible sequence of adoption might be that a site (one secondary school linked with one elementary school) starts to use the LT-cycle in reading and math. Careful evaluation indicates great benefits, and some students are eager to do more tutoring. A Morning-as-Teacher semester is implemented the following year by the two teachers who ran the LT-cycles the previous year. Meanwhile more teachers choose to participate in LT-cycles. The MaT tutors establish excellent roles vis-à-vis tutees, and tutees are themselves given within-school tutoring responsibilities for children in the primary grades. Eventually, a group of teachers can see their way to establishing a SWAS at a nearby high school. Many of the original enrollees will be students who have already been tutoring and wish to continue these responsible roles.

Students for Whom the Models Are Appropriate

A final word must be said about the students for whom these kinds of projects are suitable. We believe the projects offer experiences valuable to all students. Whether the college-bound student will find time for participation is, however, questionable. The process of learning and tutoring may slow down the rate at which the syllabus is covered by a class. Planners would need to ask if learning and tutoring lead to a higher quality of learning and better long-term retention and if these benefits justify a slower pace. Some empirical testing is clearly desirable.

Certainly, however, for secondary students who need remedial work, the Learning-Tutoring Cycle or MaT projects are ideal. The Learning-Tutoring Mini-School or Stratified SWAS should enroll a total range of student ability-levels since to do otherwise would create a school segregated by ability.

A major strength shared by all the projects lies in the individualization that becomes possible once students help with the teaching and thus free teachers to diagnose and prescribe for each pupil as an individual.

CHAPTER III

Reactions of Teachers and Parents to the Proposed Projects

The teacher does not usually initiate an innovation, but he almost always decides whether he will implement it or, more precisely, the degree to which he will use it. The teacher's power in educational innovation is that he can veto for himself. He is the ultimate consumer (House, 1974, p. 67).

How do teachers respond to the notion of Learning-by-Tutoring and to the idea of having low-achieving students be tutors as a regular part of their academic work? How do parents react to the ideas? Because this report was prepared in connection with a study of alternatives for compensatory education, it was to inner-city teachers and parents that we turned for answers to these kinds of questions.

Assessing Teachers' Attitudes

Two methods were used to assess the response of teachers to the proposed projects: (a) presentations of the Learning-Tutoring Cycle to faculty meetings followed by a questionnaire, and (b) an invitational conference during which teachers were presented with descriptions of all three proposed projects and responded to several questionnaires. The faculty meeting sample was representative of unselected inner-city teachers in general since faculty meetings provided a captive audience of school staff. The participants in the conference constituted a selected, volunteer sample of teachers and administrators willing to devote time on a Saturday to traveling across Los Angeles and attending a conference on tutoring.

(a) Presentations to faculty meetings

The idea of the Learning-Tutoring Cycle was presented at faculty meetings in nine inner-city schools in the Los Angeles area. Following the brief, 5-minute presentations, faculty were asked to respond to a questionnaire. The questionnaires used--one for elementary schools and one for secondary schools--are reproduced in Appendix A. (It should be noted that no mention was made of incentives in the presentations, nor was the question of costs raised in the presentation or on the questionnaire.)

Responses of inner-city elementary school teachers. Questionnaires were completed by 103 elementary school teachers who were present at faculty meetings at four schools. Responses to the first question, an open "What do you think of

the idea of having a whole class of secondary school students come to tutor an elementary school class?" could be classified as 90% positive despite the fact that the presentations had emphasized that tutors would be low-achieving students who were trained to tutor in order to promote their own learning as well as to help the elementary school students. However, not every teacher responded to the question, and some positive responses contained qualifying statements. A finer breakdown of the responses indicated 56 (54%) gave unqualified positive responses, 23 (22%) gave qualified positive responses, and 8 (7%) of the responses were "uncertain." There were two negative responses and 15 (15%) did not complete the item. Five representative samples of responses in the first three categories are provided in Figure 2 along with both the negative comments.

The first question was a general open-ended expression of attitude. The second question asked about the teacher's own classroom and provided a 5-point response scale. The responses to the second question are shown in Table 1. Seventy-four percent of the elementary school teachers indicated that they would like their own class to receive secondary school tutors on a regular basis. Only eleven of the 103 teachers either made no response or were negative.

TABLE 1

Responses to "Would you like your class to receive secondary school tutors on a regular basis?"

	<u>N</u>	<u>(%)</u>
yes, definitely	38	(37%)
yes	38	(37%)
uncertain	16	(16%)
no	5	(5%)
no, definitely not	1	(1%)
no response	5	(5%)

Asked "If you were going to have tutors, what subject(s) would you want the tutors to teach?" the numbers responding math or reading were fairly similar (68 for math, 74 for reading), and only 16 teachers suggested other subjects. Most of these elementary teachers did not consider it would be difficult to show secondary students how to teach the subject. Sixty-eight percent indicated they could accomplish this "quite easily." Nineteen percent indicated it could be done but would be difficult, and only eleven percent indicated they were uncertain or negative about showing secondary students how to teach.

Unqualified positive

- I think it's a fantastic idea and I happen to know it really works.
- If it's the same as learning by doing--I think it's great!
- Favor the idea very much. I believe the plan would benefit both groups equally well.
- I feel that such a program would be most beneficial and would like to become involved.
- I think both secondary and elementary students could benefit greatly.

Qualified positive

- It would be great if it were correctly monitored.
- It is a good idea provided it isn't used to relieve the teacher of the older children from the responsibility of challenging his/her class.
- I would prefer a few students although it sounds like a good idea.
- With definite planning and supervision--a good idea--also weekly follow-through.
- Good idea--needs enough supervision

Uncertain

- It would have to be extremely well organized before it would be beneficial.
- Would want tutors to have skills of higher level than my students.
- It would be worth a try except that under-achievers might create some problems.
- Depends on the maturity level of tutors.
- Whole class--no, not practical (transportation, etc.); a few--yes for those really behind.

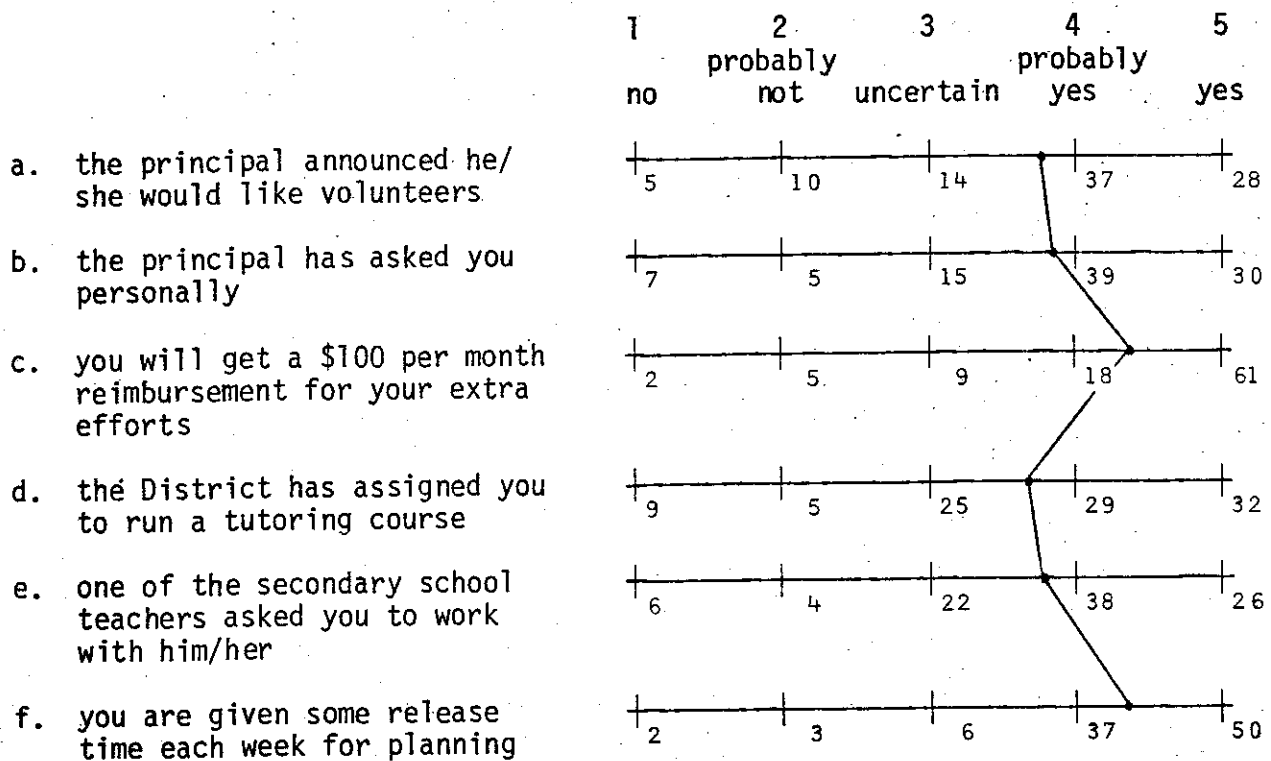
Negative

- I think it would take too much preparation time to train and organize the program.
- Theoretically fine--in practice, I question whether the older or younger kids have enough self-control to work effectively together.

Figure 2. Responses of inner-city elementary school teachers to the question: What do you think of the idea of having a whole class of secondary school students come to tutor an elementary school class?

Teachers were asked about various incentives that might make them go to the trouble of setting up a cross-school tutoring program (see Figure 3). Requests from the principal, the District or other teachers did not appear to be particularly effective if we compare the responses with those shown in Table 1. However, an incentive of \$100 per month apparently doubled the number who would set up cross-school tutoring, and release time for planning was almost equally effective.

4. Would you go to the trouble of setting up a cross-school tutoring program if: (please consider each item separately)



Note: Numbers indicate the number of responses in each category. The graph represents the response means.

Figure 3. Responses to Item #4 on the questionnaire for elementary school teachers

The final item asked teachers, "Suppose that for some reason you are thinking of running a cross-school tutoring program. Which of the following kinds of support would you most like to have?" The most popular first choices were workshops (30% indicated a one-day workshop for first choice and 22% indicated a week-long workshop). A paraprofessional was the first choice of 19 percent of the respondents. Consultants did not fare well; they were the first choice of only 6% of respondents. Coordinators and packages of materials received 12% each of the first choices. The most usual second choice was a package of materials, and the most usual third choice was a paraprofessional. Table 2 summarizes the responses.

TABLE 2

Summary of Responses to "Suppose that for some reason you are thinking of running a cross-school tutoring program. Which of the following kinds of support would you most like to have?"

	<u># of 1st choices</u>	<u># of 2nd choices</u>	<u># of 3rd choices</u>	<u>Total weighted* points</u>
a one-day workshop	22	8	12	94
a week-long workshop	16	9	6	78
consultant(s)	4	10	8	40
a coordinator	8	10	12	56
a package of materials	8	22	10	78
a para-professional (teacher's aide)	14	7	14	70

*Weighted points (3 for a first choice, 2 for a second, 1 for a third)

○ Modal response

It is a fair summary to say that teachers indicated a preference for workshops, a package of materials and a paraprofessional aide rather than consultants or a coordinator. *Teachers seem prepared to take this kind of program in their own hands after some initial chance to learn about it with fellow teachers.* Paraprofessional help appeared to be desired more than the far more expensive assistance of a coordinator.

Responses of inner-city secondary school teachers. The questionnaire for secondary teachers was completed by 192 teachers at five junior high schools located in the Los Angeles or Compton school districts. At each faculty meeting, there were a few persons who did not complete the questionnaire. It is likely that they were librarians, counselors, or special teachers--explanations sometimes tendered--and the 192 responses are therefore deemed to represent adequately the majority of teachers at the schools visited. The junior high schools had been selected for visiting on the basis of being located close to an elementary school so that cross-school tutoring would appear feasible.

Responses to the first item on the questionnaire, an open-ended question--"What do you think of the idea of learning by teaching?"--were overwhelmingly positive. Comments categorized as unqualified positive comprised 68 percent of the responses, "qualified" positive 14 percent, and there were three "uncertain" comments and three "negative" comments, each representing less than two percent of the responses. Samples of the positive responses and all the uncertain or negative responses are reproduced in Figure 4.

Asked if they would like to take a class to tutor at a nearby elementary school, responses were as shown in Table 3.

TABLE 3

Responses to the question: "Would you like to take one of your classes to tutor at a nearby elementary school on a regular basis?"

<u>Response</u>	<u>N</u>	<u>(%)</u>
yes, definitely	25	(13%)
yes	61	(32%)
uncertain	61	(32%)
no	34	(17%)
no, definitely not	5	(3%)
no answer	<u>6</u>	(3%)
	192	

Forty-five percent indicated they would like to conduct cross-school tutoring, and only twenty percent indicated they would not. Thirty-two percent were uncertain.

Positive

- One of the few good ways to learn.
- Wonderful, would like to see it on a large scale here.
- Good--students have to learn subject to teach it.
- I know that it works and have used it.
- Very good. Students can sometimes relate better with other students than do teachers (on some issues.)
- Good idea--so says John Dewey too. Learn by doing.
- Have always believed that the only way to really learn about a subject is by teaching it.
- Most definitely one of the best methods.
- I think the idea is great--I think the students would like it also.
- It seems that it does teach the children responsibility.

Qualified Positive

- Sounds good--but it seems the tutors miss a lot of class time themselves.
- OK for academic subject areas.
- Great for some kids.
- It should be effective if planned well.
- Potentially profitable for participants; needs to be more structurally and functionally refined.
- Fine--as long as the bureaucrat doesn't get the money. If it has worked well--voluntarily, let it remain in that realm.

Uncertain

- It can teach you intangibles--like getting along with others, patience, etc. --but I don't see how it would help teach one subject matter.
- Anything is worth a try.
- I know it works but transportation and planning time would be a real problem.

Negative

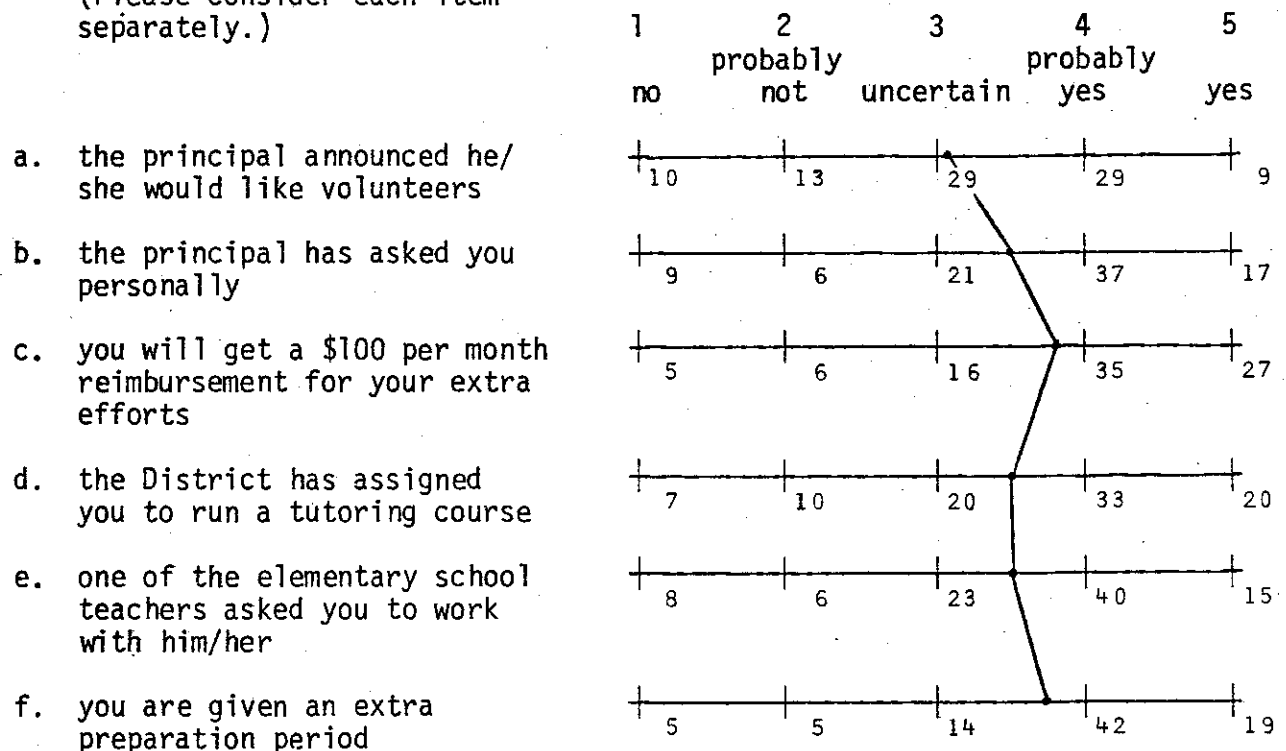
- Sounds feasible--but too much work.
- It works if the students used as teachers are selected but I can't see taking any of my present classes as a whole and having it work.
- Bureaucratic and managerial hassles of immense proportions.

Figure 4. Responses of inner-city secondary schools to the question: What do you think of the idea of learning by teaching?

Asked if they could adapt what they presently teach so that their students could teach some of it to elementary school students, nearly half the teachers (41%) felt they could quite easily (a far larger number of teachers than would be required for compensatory projects). Thirty percent responded that they could adapt what they teach their students, but it would be difficult. Fifteen percent indicated they were uncertain, and six percent chose the response "no, probably not."

As on the questionnaire for elementary school teachers, Item #4 asked teachers to consider separately various incentives to setting up a program. Results are shown in Figure 5.

4. Would you go to the trouble of setting up a cross-school tutoring program if transportation were provided and if... (Please consider each item separately.)



Note: Numbers indicate percent of responses in each category. The graph represents the response means.

Figure 5. Responses to Item #4 on the questionnaire for secondary school teachers

The secondary school teachers responded to the various incentives with essentially the same pattern as the elementary school teachers: an extra preparation period (cf. release time) or \$100 per month were the most effective incentives.

Asked which kind of help they would most prefer (Question 7 shown on p. 48 of this report), the number of teachers mentioning each kind was:

a one-day workshop	10
a week-long workshop	17
consultant(s)	12
a facilitator or coordinator	29
a package of materials	18
a para-professional	37

Secondary teachers did not show as strong an interest in workshops as was shown by elementary teachers. Instead they wanted consistent assistance from some person, and paraprofessionals were chosen by more teachers than were more expensive coordinators. Again consultants did not fare well.

(b) A Cross-Age Tutoring Conference

A letter was sent to principals of 49 inner-city schools in an urban area inviting the principal and two teachers, preferably one reading and one math teacher, to a Saturday morning conference and courtesy luncheon. No academic credit or in-service points could be offered. The schools had been selected from a map showing them to be located in the inner-city and to be close to another school, a situation that might enhance the feasibility of cross-school tutoring. Persons attended the mini-conference from 26 schools, making a total of 52 conference participants.

The conference participants were provided with a written description of the four kinds of tutoring programs (see Figure 6). The four programs were the three models (LT Cycle, MaT, Teaching Mini-School) along with a "Resource Teacher" program. The resource teacher is a math or reading specialist. The resource teacher works with small classes of secondary students in need of remedial help. These students are trained as tutors for elementary students who need remedial help. The use of a Resource Teacher to provide remedial instruction or extra services is a very familiar organizational pattern.

The Learning-Teaching Cycle. This is a cross-school tutoring program run by teachers using their regular classes. Teachers receive training and regular release time for planning. The secondary teachers work with their students in their regular classes for a week or two to prepare, say, a three week work module. Then the classes go daily to the elementary school where they tutor an appropriate elementary school class. The pairs of classes (one of tutors, one of tutees) are combined by splitting them half and half between two classrooms. One combined class, made up of half the tutors and half the tutees, is supervised by the sending teacher and the other by the receiving teacher.

Students participate in this program because their teachers have decided to run the classes by the Learning-Teaching Cycle method. It will generally involve students in tutoring one period a day in one subject.

The Morning-as-Teacher Program. This program is run by two teachers assigned full-time to the program and provided with two classrooms at the elementary school. The teachers may be either secondary school teachers who can teach basic skills or elementary teachers who are willing to work with secondary students. One teacher will be responsible for reading and social studies and the other for math and science.

Two classes of secondary school students report directly to the elementary school in the morning. The two teachers prepare these students to tutor in reading and math, and later in the semester the students prepare enrichment lessons in science and/or social studies. Students spend the entire morning tutoring and preparing lessons. They grade papers, file, type, compute average grades, write reports for parents and, in doing so, develop and exercise many skills. The two teachers work with all the secondary students and coordinate tutoring with the various classes in the elementary school. In the afternoon the tutors go to the secondary school for lunch, P.E. and electives. The teachers prepare for the next day.

The Morning-as-Teacher Program provides secondary students with all their academic credits for one semester. It is an intensive one semester experience. Students generally enroll in it in the ninth grade after they have previously taught in the Learning-Teaching Cycle. They need parent permission to enroll.

The Resource Teacher Program. In this program a reading or math specialist works with small groups of secondary students throughout the day. These students tutor elementary students who are pulled out of their regular classes because they need special help. The resource teacher trains the tutors and supervises the tutoring and coordinates with both schools.

Secondary students generally participate in this program one period per day. Elementary school children participate at the discretion of their teachers.

The Teaching Mini-School. The Teaching Mini-School consists of about 200 students and 7 teachers. The students are from three grade levels that are separated by three years. For example, one mini-school contains only 1st graders, 5th graders, and 9th graders. The presence of the three distinct age groups makes their roles clear: older students help and care for younger students. Teachers run the school by involving all students in learning and teaching.

The mini-school might exist as a school-within-a-school on a regular site. Students are enrolled in a mini-school at the request of parents. The school is governed by teachers, community representatives and parents.

Figure 6. Descriptions of four tutoring programs

Participants were requested to discuss the four kinds of programs and then rate them, using an A+ to F scale on various criteria. The mean ratings are shown in Figure 7.

	Learning- Teaching Cycle	Morning- as-Teacher Program	Resource Teacher Program	Teaching Mini- School
Feasibility (will it be tried?)	B+	C-	(B)	D
Probable effectiveness (would it work if tried?)	B+	(C+)	B+	C
Attractiveness to students	(A-)	B-	(B+)	(C)
Attractiveness to teachers (would you like to teach in it?)	B	B-	(A-)	(D+)
Attractiveness to community and parents	B-	(C)	B	(C-)
Attractiveness to administrators	B+	(C)	B++	(C)

○ = good consensus (small variation in responses)

() = weak consensus (large variation in responses)

Figure 7. Mean ratings for four tutoring programs

The Learning-Teaching Cycle and Resource Teacher program both fared well on these considered ratings, generally receiving B or better average ratings. There was a general consensus regarding the attractiveness of being a Resource Teacher. It should be well known that to work with small classes is one of the strongest desires of all teachers; the Resource Teacher program holds out such a promise.

The Morning-as-Teacher program and the Teaching Mini-School received less favorable ratings than the other two programs. In particular, the Teaching Mini-School was not seen as attractive to teachers. Opinions varied widely, however, regarding its attractiveness to students, community and parents, and administrators.

One way of viewing the results is to note that the further removed from current practice, the lower the attractiveness of a program. This is not surprising. Teachers, perhaps because of the daily demands of the job, tend to move cautiously; innovations are accepted into the existing structure with considerable adaptation.

A very positive result of this testing of the models was the finding that a novel approach--the Learning-Tutoring Cycle--was so readily embraced by teachers. It received ratings as high or higher than the more familiar kind of Resource Teacher program for feasibility, probable effectiveness, and attractiveness to students. Clearly this is not a program that would run into initial resistance. It is well received. The Morning-as-Teacher and the Mini-School programs will have a less wide appeal and like many drastic changes will need the enthusiasm of a few individuals. The wide variation in responses suggested that those few individuals might well be found and there were a couple of expressions of keen interest in the School-Within-A-School approach.

Further evidence of the acceptability of the Learning-Tutoring Cycle is indicated by teachers' initial reactions to a description of the Learning-Tutoring Cycle:

Reactions of elementary school teachers to the LT-Cycle

Fantastic!!

I am sold on tutoring. We have an excellent cross-age tutorial program.

I think it's a great idea.

I am an elementary tutorial coordinator I prefer crossing upper and lower grade children.

I think it is a terrific idea. We desperately need their assistance.

Excellent idea.

I think it would be a good idea but difficult.

As a possibility.

Idealistically--good--realistically speaking it would be difficult.

I am concerned about the time it takes to transfer from one school to the other.

The secondary students should be chosen according to interests and desires.

It is an excellent idea especially if well planned.

Excellent idea if well planned.

I think it would be interesting to experience.

Good.

A great idea.

I would like to try it--I think it is a great idea if it can be worked out.

Good idea.

Great! Bring 'em on!

Good.

Excellent.

If the program is well-organized, I think that it can be very successful.

It is an excellent opportunity to satisfy social and educational needs of both age students.

It's worth a try.

OK

Great.

If this system could be formulated within our secondary school, it would be ideal.

Reactions of secondary school teachers to the LT-Cycle

Can be excellent

Very good idea

Worthwhile project; have been involved 8 years (elem., jh., sh.)

I am all for this idea because I enjoy self-improvement

An excellent method for learning not only for cognitive, but in the affective domain

Very useful and with appropriate commitment would work beautifully in our jhs.

Good

Very sound particularly if one student has to master subject or skill to present to another

Excellent. I've used method in my own classrooms referring to it as peer teaching.

It's a fantastic incentive program.

Good idea. Can be used in many different ways. Accomplishes learning in an interesting way.

Good idea provided extensive planning takes place

Sounds good, but can be difficult to install

I've used it in my classroom. It works!

Excellent--we use the system at N_____ and the results are impressive. Our program runs solely within the school.

Good idea

Extremely effective method

It was thought possible that elementary teachers might not relish the idea of supervising secondary school tutors. There were asked, on an anonymous questionnaire, "In the Learning-Teaching Cycle you would regularly have to supervise secondary school students as they tutor in your classroom. Doesn't this put you off the idea, especially since the tutors won't necessarily be the best students?" The responses were predominantly reassuring--elementary teachers were quite prepared to confront such a task. Here are the actual responses:

No

No (12 responses)

- No--we have Team Teaching organizational structure.
- No--I've been doing this for 10 years of 5-6 graders with lower grade students and I prefer low-average 5 & 6 graders.
- No, I am a teacher.
- I still think it's a good idea and all the more reason why it should be supervised.
- No, I've worked with some secondary tutors and found it quite rewarding. I know the results.
- No, I would like to have high school students tutor my pupils.
- I would like to try it.
- No, for only through supervision can you as the pedagogical guide or director determine the liabilities and assets of the program and function accordingly.
- No. Have used student helpers always during my teaching career.
- No, it does not put me off since the tutors will be gaining knowledge and helping themselves.
- This could make a better student out of the worst.
- No, I feel that this type of program would give a student who is an under achiever a better self image, and would help him see the teacher's point of teaching.

Qualified No

- If tutors are willing to follow instructions, accept suggestions and give suggestions, the program can move successfully.
- No. Secondary students don't have to be the best, but I'd have some reservations about EH and EMR tutors.
- I realize the responsibility, however, it would seem as if the regular teacher would have to have some relief time for planning with the tutor.

Uncertain

- I'm not certain I understand the question.
- Not certain--would like to try; but prefer maintaining the program within our own elementary school.

Teachers were less sure that they could allow tutors to teach complete sequences of the curriculum.* When asked, "In the Learning-Teaching Cycle the tutors are supposed to teach real parts of the curriculum. Could you let them do this? Would you, for example, let tutors introduce your students to fractions or teach rules of phonics?" responses were:

Yes

Yes (11 responses)

- Yes and add to their ideas.
- Yes for teaching in itself is a learning process. With aid and/or assistance during training sessions, the secondary student may at times decrease the time within the elementary student of the discovery of a cognitive concept.
- I feel that the tutees can learn these concepts from the tutors as well as the tutors being able to pick up the concept. It becomes a learning process for both students. It helps to reinforce the skills which the tutor once learned.

Qualified Yes

- If the student has been trained in the area he is going to teach, I feel it would be ideal.
- Yes if student is capable.
- Yes, after providing appropriate inservice for tutors.
- With proper pre training I would allow the students to introduce a concept.
- As long as the students have training and supervision it would be alright.
- Yes--with prior preparation on their (tutors) part.
- Yes, if they have been properly trained and I know that a supervisor will be present to help if and when needed.

No

- Not introduce but reinforce these skills already introduced by the teacher.
- I probably would do the introducing of new concepts.
- No--I would let them re-enforce these skills.
- No I would not let them introduce the skills. I would prefer they re-inforce skills that have been introduced.
- I will introduce new units and the tutors can follow up and assist in the manner in which I would feel is profitable.
- Yes, but as a review, i.e., in reading, supplementary readers at a lower level. Studies also show that review rather than teach is far more effective.
- Not introduce new concepts but reinforce and strengthen concepts already introduced and taught.

Uncertain

- Perhaps--I've experimented with little ones explaining how they learned something discovered.

*A discussion of full-sequence instruction as opposed to remedial instruction can be found in "Setting up and evaluating tutoring projects," CSE Report on Tutoring #122.

An item on one of the conference questionnaires for secondary teachers was similar to the item on the Faculty Presentation Questionnaires asking what kind of assistance teachers would most like if they were going to implement a tutoring project. This time, however, the question posed the problem as a forced choice for the expenditure of funds: "If there are funds to support tutoring programs at your school, how would you want them to be spent? (Check one)." The Three choices were (1) to train regular teachers and give them release time, (2) to employ a resource teacher who would run the project without involving other teachers, or (3) to provide a coordinator to assist teachers. The majority (76%) preferred to provide regular teachers with training and release time, although the need for a coordinator was noted if the program was "extensive." No teachers opted for employment of a resource teacher to run the project alone.

As the conference ended, participants were invited to write evaluations of the conference on a slip of paper should they wish to do so. Twenty-two responded despite lack of pressure to do so in the general confusion of people leaving an eating area. The striking aspect of the highly positive comments received was the number eager to proceed with concrete steps.

It could be argued that this group of conference participants was a self-selected, high-initiative group of teachers whose independence (in terms of their lack of interest in a coordinator) is not typical of teachers as a whole. Nevertheless, it is likely that innovations will always spread initially through self-selected, high-initiative persons. We needed to know if these persons would demand a highly involved coordinator. They did not. Furthermore, when asked to work in pairs, secondary and elementary teachers appeared able to reach ready agreement on planning the curriculum together, scheduling tutoring, and supervision.

Assessing Parents' Attitudes

Contacts were made with parents from six schools in the Los Angeles Unified School District, all but one being schools that are currently receiving Title I funds. In four schools, Parent Advisory Committee (PAC) meetings were attended for the purpose of obtaining parent responses to the three kinds of tutoring projects. In addition to these meetings, two schools were visited to obtain

the reactions of those parents who were working or volunteering at the school sites. Unfortunately, due to small numbers attending PACs, these time-consuming contacts only yielded 41 responses which some readers may consider to be an opportunity sample of such small size as to be scarcely worth considering. However, the responses of these parents were extremely interesting and so frequently reflected views encountered in other parts of this research effort that the writer feels some confidence that they are reasonably representative of actively involved parents and are worth reporting.

At the PAC meetings, a brief presentation was made, explaining the overall purpose of the project and describing each of the three models. Questionnaires were then distributed and parents were asked to complete and return them at that time.

A summary of the Parent Questionnaire is presented in Figure 8, and the percentage of parents responding in each category is indicated. There was a clearly positive overall response, especially to the Learning-Tutoring Cycle --83% indicated they would probably want a son or daughter to participate in such a project. There was less enthusiasm--and many more reservations--concerning the Morning-as-Teacher Semester and the Mini-School idea.

Comments that the parents made on the questionnaires raised some important points, indicating that objections might be forthcoming if a project was not well-explained. The responses were so interesting they are presented in full below, grouped as "negative comments," "reservations," and "positive comments."

SUMMARY OF COMMENTS ON PARENT QUESTIONNAIRE

Negative Comments:

- Too expensive
- When an older student tutors a younger child, he does reinforce his basic skills and perhaps gains an understanding of the learning process. I am against older students tutoring on school time because they are not progressing as far as they should in their high school subject areas. Their school hours should be spent developing them closer to their potential. College students especially those interested in education should have the opportunity to tutor elementary and older students. The smallness of the mini school idea appeals to me because the students would have a chance to build a relationship with each other thus enhancing the tutoring of a younger child.

Reservations:

- Students elected to do the tutoring should be capable and knowledgeable and carry an average or above grade.
- Grade level on #8 would depend on what studies the child has and how their grades are at the time.
- Some students would benefit tremendously from any of these programs, others would be definitely handicapped out of the present system. I would suggest conducting program as an elective, not mandatory.
- Constant evaluation of programs effects on both sides so as to accomplish original goals of program.
- I picked the Learning-Teaching as best since it seemed to be less disruptive and the most controlled.
- The tutoring would be fine if it's in addition to regular teaching.
- I believe this program would give the Board of Education reasons to cut back on the hiring of regular school teachers, if the program is a success.
- Program sounds good, but would like to see a study done in one school first.
- I think that the learning and teaching of the program sounds great. I don't like the idea of the 1st and 5th graders amongst 9th graders or 2nd graders amongst 10th graders. Being taught by them "yes" but overall environment, "no." I feel that a child should be with his age group other than being taught by an adult or young adult.
- Mini-school concept good idea but how to you convert existing large school plants for 500-1,000 students to a small intimate group? Also--all 3 plans seem larger expense for fewer students than present Title I.

Positive Comments:

- Elementary children could be better in subjects with more help.
- They all sound promising. I would like more information on these.
- I think any program that will help children should be given a chance.
- Cross-age tutoring benefits both age levels but the morning-as-teacher program would be most suitable in connection with career education for prospective education majors.
- I feel many children learn much better from other young people.
- I think elementary school children love older kids to tutor. Some of them would love a new sister or brother to help because they would have something new to talk about and it would sure be an experience for them.
- Sounds really exciting. I would like very much to see these programs in our school system.
- Good idea but should be limited to 10%-20% of classes at any time.
- It sounds too good to be true. I wish we had any one of the three programs at our school.
- I think the learning-teaching cycle will be a very helpful program.
- I like the idea of trying to give secondary students more incentive. It's not too late for them to learn basic skills which tutoring can help do. I'm not sure the results would justify the cost though since I've not seen any actual studies.
- It's perfect for a child needing some leadership training or wanting to become a teacher.

PARENT QUESTIONNAIRE

1. Are these programs promising? (46%) very (46%) somewhat (3%) ? (5%) not much (0) not at all
 Which is best? (58%) LTC (29%) MaT (13%) Mini-school Which is worst? (16%) LTC (20%) MaT (64%) Mini-school
2. Can older students learn something by teaching younger students?
 (52%) yes, definitely (41%) yes (5%) ? (2%) no (0) definitely not
3. Would you want a son or daughter of yours to participate in the Learning-Teaching Cycle?
 (39%) yes, definitely (44%) yes, probably (0) don't know (15%) no, probably not (2%) no, definitely not
4. Would you want a son or daughter of yours to participate in the Morning-as-Teacher Semester?
 (20%) yes, definitely (48%) yes, probably (7%) don't know (23%) no, probably not (2%) no, definitely not
5. Would you want a son or daughter of yours to attend a Teaching Mini-School?
 (17%) yes, definitely (29%) yes, probably (24%) don't know (21%) no, probably not (9%) no, definitely not
6. In which program do you think you would become most involved (by going to the school, or observing, or helping, or getting to know the teachers)?
 (45%) Learning-Teaching Cycle (4%) None
 (16%) Morning-as-Teacher Semester (22%) All equally
 (13%) Teaching Mini-School
7. How would you feel if your elementary school child had a secondary school tutor each day?
 (0) angry (5%) not pleased (20%) neutral or don't know (51%) pleased (24%) very pleased
8. At what grade level would you give permission for your son or daughter to spend a semester in the Morning-as-Teacher program (check one answer).
 (12%) 7th (12%) 10th (4%) none, would not give permission
 (6%) 8th (10%) 11th (15%) at any one of those grade levels, but only one
 (6%) 9th (12%) 12th (15%) I'd let my children spend the morning as teacher as often as they wanted to
 (6%) Other: It depends on what age and grade he is/It would depend on the child/At any grade level

Figure 8. Summary of Parent Questionnaire

* * * * *

This chapter reported the reactions of some teachers and parents from inner-city schools to the Learning-Tutoring Cycle, the Morning-as-Teacher Semester, and the Learning Tutoring Mini-School (or "stratified SWAS"). In addition to tabulations of responses to questionnaire items, all negative comments on questionnaires and most other comments were reported unedited and verbatim to allow readers to form their own judgments of the data and obtain a richer sense of people's reactions than is obtained from frequency distributions.

The Learning-Tutoring Cycle was consistently seen as highly feasible and likely to be effective. Teachers felt they could implement it, and parents indicated they would like their children to participate. Perhaps because they represent the greatest departure from normal practice, the Morning-as-Teacher semester and the Learning Tutoring Mini-School were only received enthusiastically by a minority.

CHAPTER IV
Ideas for Components That Can Be Added
to Any Tutoring Project

Described in this chapter are several components that could be added to any Tutorial Service or Learning-by-Tutoring project: community tutor certification, paid summer tutoring, a tutor effectiveness monitoring system, report cards for tutoring, a tutoring bureaucracy, three tier tutoring. The purpose behind each component is clarified by a statement of an implementation objective and rationale for the component. These are followed by a description of procedures for implementing the component.

COMMUNITY TUTOR CERTIFICATION PROGRAM

Objective. Establishment by a secondary school of a file of students who can effectively teach specified curriculum units.

Rationale. Given such a file, parents could request names and references from the file to hire tutors, at low cost, for students who are in need of assistance. Teachers could recommend that parents avail themselves of these services when students fall behind in their school-work. Tutors would be enabled to earn pocket money.

Procedures. Small discrete units of the curriculum are identified by teachers. Pre and posttests are developed for each unit, and tutors are trained to teach the unit. This training includes the collecting, by the tutor, of all materials necessary for teaching the particular unit. For example, a unit on fractions might include paper circles that can be used for demonstrating halves and quarters. The materials are collected into a tutor's "package" for each unit.

Once trained, the tutor must tutor five children who need to learn the curriculum unit. If the tutor's "package" is acceptable, if his/her knowledge of the unit indicates mastery, and if the five tutees pass the posttest, the tutor receives a proficiency certificate for that unit of the curriculum. Tutors will want to accumulate certificates in many curriculum units.

The tutors may wish to actively recruit tutees in their neighborhood. Several tutors may join together to establish "Saturday School." Whatever method is used to obtain tutees--teacher recommendations, unprompted parent requests, or recruitment by tutors--the important aspect is that parents are assured that tutors are competent in certain areas.

Some schools might be able to obtain external funds to support out-of-school tutoring rather than asking parents to pay.

PAID SUMMER TUTORING

Objective. To provide useful summer employment for school students.

Rationale. Adolescents need employment during the summer, and parents need child-care services.

Procedures. A school or school district could set up a summer tutoring project that provides child-care and tutoring and is paid for by parents. Many parents must make some arrangement for their young children during the summer because they themselves are working. Another approach is to seek public funds. Many summer tutoring projects have already been conducted using funds from sources such as the National Youth Corps or from the Comprehensive Education and Training Act (CETA). An excellent source of information is the National Commission on Resources for Youth, Inc., 36 West 44th Street, New York, NY 10036, which has assisted dozens of "Youth Tutoring Youth" projects across the country.

The existence of paid summer tutoring possibilities enhances an existing tutoring project in the schools because the chance of enrollment in these projects is sometimes a valuable motivator for tutors during the regular school year. Reciprocally, the existence of school tutoring projects enhances the value of paid summer tutoring since tutors come to the project having already had some training and experience. Some projects employing untrained student tutors have been seen as a waste of funds by observers, a kind of disaster public programs very much need to avoid.

A TUTOR EFFECTIVENESS MONITORING SYSTEM

Objective. To measure regularly, in Learning-Tutoring Cycle projects, how effectively each tutor is teaching.

Rationale. Can we measure how effective tutors are at promoting learning in their tutees? If we could, ineffective tutors could be given prompt assistance and outstanding tutors could receive special recognition. Particularly, effective tutors could be given difficult tutees whom others could not reach or teach.

Procedures. To implement a Tutor Effectiveness Monitoring System in a Learning-Tutoring Cycle project, the following elements are needed:

- pretests and posttests taken by all tutees at the beginning and end of each cycle
- a record of which tutor was paired with which tutee
- a person to conduct data analysis for each cycle

A simple method is to record the gain score for each tutee, and assume that tutors who produced the greatest gains were the most effective. A table such as the following could be drawn up:

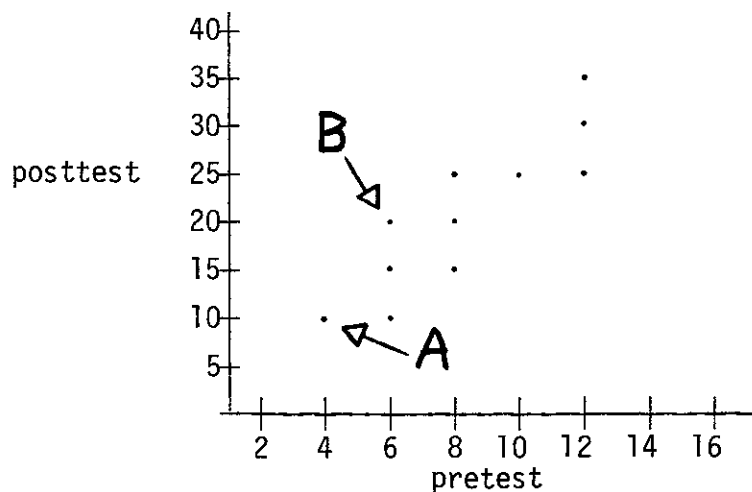
Tutor	Tutee	Tutee Pretest	Tutee Posttest	Gain Score*	Tutor Effectiveness Rank
Geoff	Michael	5	25	20	1
John	Judy	3	19	16	4
Stanley	Jane	2	20	18	3
Cheryl	Susan	6	25	19	2

*(Posttest minus pretest)

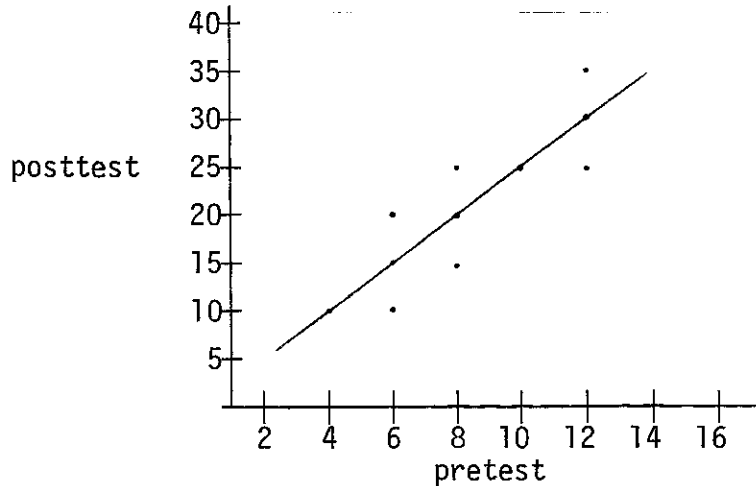
Based on the small numbers and similar gains shown in the table, little can be said. Geoff appears to have been most effective, but Cheryl and Stanley obtained gains almost as high. Allowing for error, all four tutors probably did about equally well. However, a table like the one shown drawn up for a whole class might yield data worth interpreting. The top five tutors in a class of 30 might be named at the end of each cycle to recognize their effective teaching. Tutors whose tutees regularly made small gains should be closely watched and helped.

Instead of gain scores, a "regression" approach could be used if a math teacher or district office evaluator was interested in conducting the analysis. The next few paragraphs explain the regression approach. (The regression approach should be more accurate than the simple gain-score approach, but the latter is much simpler to handle.)

Regression approach to tutor effectiveness. To grasp the idea behind measuring tutor effectiveness consider a graph that shows each tutee's posttest and pretest scores:



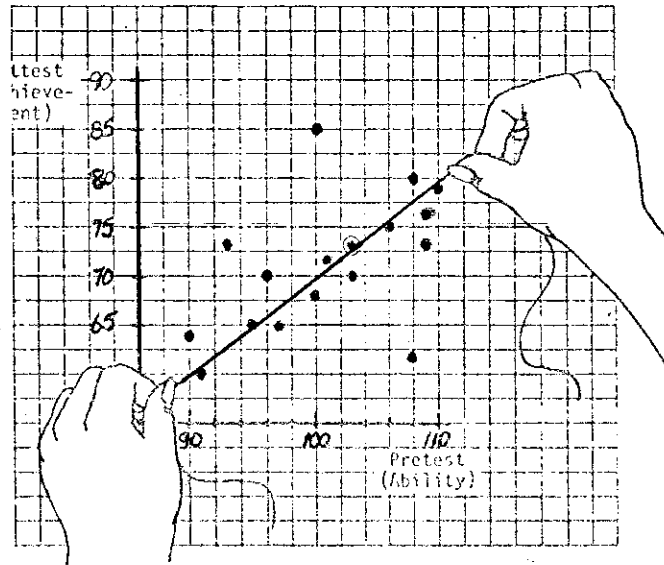
Tutee A, for example scored 4 on the pretest and 10 on the posttest. Tutee B scored 6 on the pretest and 20 on the posttest. A line can be drawn to show the general trend of the set of scores, as shown below. The line is called the regression line of posttest scores on pretest scores.



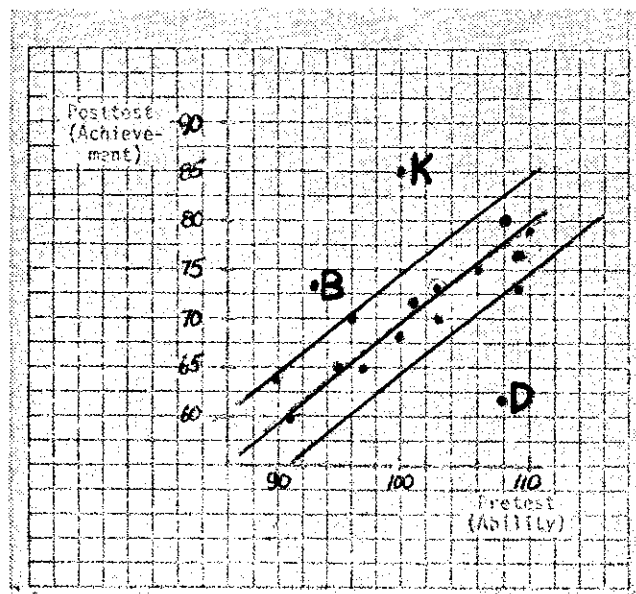
Tutees whose points lie above the line have made better gains than tutees whose points lie below the line--but note that all tutees made some gains. To identify particularly effective tutors, look for points that are very much above the line. To identify tutors particularly who need assistance, look for points very much below the line.

The "pretest" need not be the same test as the posttest. It must just be a test that shows which students are likely to do well on the posttest. An ability measure could be used as a pretest.

The next figure shows a way of drawing in the regression line: use a thread and adjust its position until points appear to be balanced above and below the line. Then mark the position of the thread and draw the line in that position.



Because there are always errors in scores, not much attention should be paid to scores just slightly above or below the regression line. One approach to locating posttest scores that are much better than expected (indicating effective tutoring) or much worse than expected (indicating poor tutoring) is to draw parallel lines above and below the regression line. Place the lines so they enclose most of the scores, and then examine the few scores outside the lines. For example, in the next figure, the tutors of B and K obtained very good results--higher posttest scores than were expected on the basis of the pretest scores--and the tutor of D obtained a rather poor result.



REPORT CARDS FOR TUTORING

Objective. To provide tutors with meaningful feedback, both subjective and objective.

Rationale. For years, from grade school to graduate school, grades have motivated students. Grades provide unambiguous assessments* and indicate how well a student has performed in each subject area. If we want tutors to understand all the expectations we have for them as tutors, one of the clearest ways to communicate these expectations is to list them on a report card that is completed every week, or at the end of every tutoring cycle or every quarter, as seems desirable.

Procedures. Project staff discuss and list their expectations for tutors, expectations such as punctuality, effective teaching, etc. They then decide how they will measure the extent to which a tutor is doing well or poorly with respect to each expectation. Some measurements may simply be the judgment of the sending or receiving teacher. Other measurements might be objective, drawn from a Tutoring Effectiveness Monitoring System or from attendance records. The report card might look like this:

Name _____		TUTOR REPORT CARD		Date _____	
		Grade	Comments		
*Attendance					
*Punctuality					
Patience with tutee					
Skill in teaching--teacher observation					
Organization of materials					
Effort					
*Effectiveness as a teacher --based on tutee achievement data					
*Academic achievement of tutor					
*These are objective measures, based upon tests or records. Other measures represent the judgment of supervising teachers.					

*The assessments may be inaccurate or unjust, but at least a grade is fairly unambiguous. An A is definitely better than a B.

A TUTORING BUREAUCRACY

Objective. To establish a promotion ladder for tutors and enhance the chances that tutoring projects will continue.

Rationale. It should not have escaped anyone's attention in the modern world that well-established bureaucracies are tremendously viable. If you wish a practice to survive, create a bureaucracy around it. One characteristic of a bureaucracy is the possibility of promotion within it based officially on criteria of merit. It may be that the longer a student tutors, the more effective that student will become. To encourage experienced tutors to continue to help and to take on greater responsibilities, a system of career advancement would be desirable. In particular, should funds be available to pay some tutors, a means of selecting these tutors will be needed. A clear set of promotions and positions, such as in a bureaucracy, will be helpful.

Procedures. Differentiated roles can be instituted. A first semester tutor is called a beginning tutor and receives close monitoring and supervision and frequent training. If the first semester's work is satisfactory, a second semester tutor may start to work for proficiency certificates as described on pages 32-33 of this booklet. A third semester tutor who has obtained a number of certificates is called a qualified tutor and receives special privileges and the chance of paid employment.

Among the qualified tutors "special tutors" might be designated. A special tutor is any tutor designated by supervising teachers as exceptionally effective with difficult tutees. A special tutor is comparable to a special education teacher and shows understanding, patience and effectiveness with tutees who have special problems such as mental retardation, emotional handicaps, persistent discipline problems. Designation as a special tutor is made on the written recommendation of two teachers. The written recommendations should provide detailed accounts of the tutor's effectiveness with special tutees. Tutors request or are asked to try out for special tutor status.

The designation of special tutors may be particularly important with tutees in grades 4 through 6. These tutees can become quite difficult for tutors to work with, and a special effort is required of tutors to be patient and effective with these tutees.

Another special designation might be given to tutors who are trained to work with programmed materials. These materials require tutors to follow very precise instructions, an activity which is sometimes quite boring. Most programmed instruction has used paid paraprofessionals. Whether, after some exposure, tutors will continue to want to engage in programmed tutoring will probably depend heavily on their perceptions of their role. If they sense that they are seen as cheap replacements for paraprofessionals, they might well rebel. If they feel, however, that they are trained in a valuable skill, for which they receive recognition, they may continue to enjoy the experience.

THREE TIER TUTORING

Objective. To provide tutees with a chance to tutor.

Rationale. Tutees need motivating too! The motivational effects of being assigned to tutors can benefit tutees if, after receiving tutoring in a topic, they can turn around and tutor someone else.

Procedures. Perhaps three tier tutoring is most appropriately used when secondary school students tutor upper grade elementary students who then tutor lower grade elementary students. Given such an arrangement, secondary school tutors are likely to find the upper grade tutees more eager to learn than is sometimes the case.

* * * * *

Ideas have been presented in this chapter for several components that could be added to tutoring projects. Most of the components described ways of providing feedback and/or reinforcements to tutors. Such provision must be a major concern of those running tutoring projects since tutoring cannot succeed if tutors do not sustain an interest in their task.

Recent re-analyses of the Hawthorne effect (Parsons, 1974) confirm the results of many experiments and the predictions of behavioral theories: feedback ("knowledge of results") and reinforcements ("rewards") are powerful ways of enhancing motivation for an activity. The components concerned with providing tutors with feedback and reinforcement were: a certification program to enable students to obtain qualifications as "community tutors," the provision of summer jobs for tutors, a monitoring system to detect particularly effective and ineffective tutors, report cards for tutors, and a tutoring "bureaucracy." In addition, a suggestion was made for three tier tutoring in which tutees act as tutors to even younger pupils. Because this arrangement could be expected to increase the original tutees' need to learn from their tutors, it could have a synergistic effect on the entire tutoring system.

For those thinking of implementing the projects described here, we urge intensive planning by the teachers to be involved, the provision of regular release time for those teachers, and careful evaluation. CSE Report #122 provides guidance both for the planning and evaluation of tutoring projects in general. Title I funds, for some district, could be a source of the financial support that will be necessary for successful implementation of these promising changes in the paradigm of schooling.

Elementary School Faculty Questionnaire

ROLE CHANGE INTERVENTION PROJECT - LEARNING BY TEACHING

145 Moore Hall, UCLA, LA 90024

Questionnaire

1. What do you think of the idea of having a whole class of secondary school students come to tutor an elementary school class?
-
-

2. Would you like your class to receive secondary school tutors on a regular basis?
- | | | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| yes,
definitely | yes | uncertain | no | no,
definitely not |

3. If you were going to have tutors:

a. What subject(s) would you want the tutors to teach? _____

b. Do you think you could show secondary students how to teach the subject(s)?

- | | | | | |
|--------------------------|--------------------------------------|--------------------------|--------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| yes, quite
easily | yes, but it
would be
difficult | uncertain | no,
probably not | definitely
not |

4. Would you go to the trouble of setting up a cross-school tutoring program if:
(please consider each item separately):

	no	probably not	uncertain	probably yes	yes
a. the principal announced he/she would like volunteers	1	2	3	4	5
b. the principal has asked you personally	1	2	3	4	5
c. you will get a \$100 per month reimbursement for your extra efforts	1	2	3	4	5
d. the District has assigned you to run a tutoring course	1	2	3	4	5
e. one of the secondary school teachers asked you to work with him/her	1	2	3	4	5
f. you are given some release time each week for planning	1	2	3	4	5

5. Would you like to hear more about cross-age tutoring at a workshop/conference to be held on a Saturday in January at UCLA?

yes no

If yes, please write your name and school:

(over)

Secondary School Faculty Questionnaire

ROLE CHANGE INTERVENTION PROJECT - LEARNING BY TEACHING

145 Moore Hall, UCLA, LA 90024

Questionnaire

1. What do you think of the idea of learning by teaching?

2. Would you like to take one of your classes to tutor at a nearby elementary school on a regular basis?

- yes, definitely
 yes
 uncertain
 no
 no, definitely not

3. a. What subject(s) do you teach? _____

b. Could you adapt what you presently teach so that your students could teach some of it to elementary school students?

- yes, quite easily
 yes, but it would be difficult
 uncertain
 no, probably not
 definitely not

4. Would you go to the trouble of setting up a cross-school tutoring program if transportation were provided and IF... (Please consider each item separately.)

	no	probably not	uncertain	probably yes	yes
a. the principal announced he/she would like volunteers	1	2	3	4	5
b. the principal has asked you personally	1	2	3	4	5
c. you will get a \$100 per month reimbursement for your extra efforts	1	2	3	4	5
d. the District has assigned you to run a tutoring course	1	2	3	4	5
e. one of the elementary school teachers asked you to work with him/her	1	2	3	4	5
f. you are given an extra preparation period	1	2	3	4	5

5. Would you like to hear more about cross-age tutoring at a workshop/conference to be held on a Saturday in January at UCLA?

- yes
 no
 If yes, please write your name and school:
-
-

(over)

Reading About Tutoring

The following CSE Reports on Tutoring are available from the Center for the Study of Evaluation, UCLA Graduate School of Education, 145 Moore Hall, Los Angeles, California 90024.

A. The Learning-Tutoring Cycle: An Overview

An overview of the entire project and recommendations for actions which are designed to put the ideas of this study to the test--to see if the Learning-Tutoring Cycle can indeed significantly improve the educational attainment of disadvantaged students.

#122. Setting Up and Evaluating Tutoring Projects

A listing and explanation of decisions that must be made at each school site when a tutoring project is started. Pros and cons for each decision are presented for discussion. A step-by-step outline of evaluation activities is included.

#118. A Survey of Tutoring Projects

A nationwide survey of tutoring projects and a description of site visits to some existing tutoring projects.

#121. Tutoring: Some New Ideas^{*}

Description of a specific approach to tutoring in which the focus is on the learning and motivation of the tutors. Included also are ideas on expansion of tutoring to provide significant educational alternatives, as in a School-Within-A-School project. The reactions of teachers to the ideas are documented.

#117. An Examination of the Literature on Tutoring

A literature review that examines both laboratory studies and in-school programs to identify important issues in tutoring.

#116. Tutoring and Social Psychology: A Theoretical Analysis

An examination of tutoring from the perspective of social psychology. Presents operationalized hypotheses that researchers might test.

* This report you are presently reading.

REFERENCES

- House, E. R. The politics of educational innovation. Berkeley, California: McCutchan Publishing Corporation, 1974.
- Larson, M. A. Proposal for research: Alternative designs to contrast with current practice in compensatory education. Menlo Park, California: Stanford Research Institute, 1976.
- Larson, M. A. & Dittman, F. E. Compensatory education and early adolescence: Reviewing our National Strategy Research Report. Menlo Park, California: Stanford Research Institute, 1975.
- Parsons, H. M. What happened at Hawthorne. Science, 1974, 183, 922-932.