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Peer tutoring and other innovative uses of students in teaching roles have received considerable attention because of the academic and social gains which can be observed among participating children. Teachers who want to try peer tutoring often encounter difficulty in devising workable programs for their own classrooms, however, because most currently available information fails to integrate what has been learned from individual projects throughout the country. This interpretive study combines an examination of relevant literature and field observations of several ongoing peer tutoring programs in a guide for school personnel. The guide contains descriptions of both structured and flexible approaches to tutoring in reading (8 programs), all subjects (3 programs), spelling/English (1 program), and math (1 program). It also provides suggestions for teachers on how to design and implement a program of peer tutoring which is responsive to the particular needs of their individual classrooms. The bibliography lists 206 published articles, ERIC documents, and doctoral dissertations on peer tutoring. (Author/MKM)

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FINAL REPORT

PATTERNS OF PEER TUTORING

National Institute of Education Project No. 4-0945

David J. Klaus

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The research reported herein was performed pursuant to a grant [contract] with the National Institute of Education, U.S. Department of Health, Education, and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do now, therefore, necessarily represent official National Institute of Education position or policy.

ABSTRACT

Peer tutoring and other innovative uses of students in teaching roles recently have received considerable attention because of the substantial academic and social gains which can be observed among participating children. Teachers who want to try peer tutoring encounter difficulty in devising workable programs for their own classrooms, however, because most currently available information fails to integrate what has been learned from individual projects throughout the country. This interpretive study combines an examination of relevant literature and field observations of several ongoing peer tutoring programs in a comprehensive guide for school personnel. The guide contains descriptions of several approaches and suggestions for teachers on how to design and implement a program of peer tutoring which is responsive to the particular needs of their individual classrooms. The bibliography lists 206 published articles, ERIC reports, and doctoral dissertations on peer tutoring.

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- Mr. Floyd Cottam, Program Coordinator at the Pocoima Elementary School, Pocoima, California; and
- Ms. Margaret Graves, Superintendent of Schools for Cuming County, Nebraska.

TABLE OF CONTENTS

CHAPTER 1. INTRODUCTION

This Guidebook has been prepared to acquaint potential users of peer tutoring with the variety of programs that have been developed featuring students in teaching roles and with the outcomes that have been produced. It characterizes several models that have been described, points out some of the hurdles that should be anticipated, and explains the steps taken by teachers who have initiated successful programs. These experiences from other schools can help you decide whether peer tutoring is appropriate for your school or classroom. They can also help you plan, implement, and assess a peer tutoring program which is tailored to your own aims and the needs of your students.

What is Peer Tutoring?

Children do learn from other children. This simple principle has become increasingly important to many youngsters throughout the country who are now learning from one another as part of their regular classroom instruction. Very often, children who work together discover the experience is both enjoyable and productive. Many teachers, too, have become convinced that students helping each other has enormous potential for education. Sufficient research evidence has been accumulated to show that carefully designed peer teaching programs add measurably to the educational growth of the participants. It is not suprising, then, that children teaching children has received so much attention in the past several years.

For most children, teaching and learning from each other is a very normal experience. Preschoolers learn from one another at play, adolescents get together on homework activities, and classmates coach their

friends on study assignments. Peer teaching within the classroom may be more deliberate and structured, but many of the same qualities are evident. Children often feel more comfortable receiving instruction from other youngsters than from adults. They find it easier to ask questions, seek clarifications, and acknowledge their own confusion. The answers and explanations, presented in the more familiar words of their peers are sometimes easier to understand.

When given a teaching role, children often are able to view the learning difficulties of their peers with refreshing sympathy and insight. Their closeness to the material helps them isolate the source of problems, choose useful examples, and respond enthusiastically to even slight signs of progress. Evidence also is accumulating which suggests that those students who offer help to others respond to the challenge by improving their own skills and knowledge. Particularly those youngsters who themselves learn slowly seem to gain motivation toward school through responsibility for helping another child.

Social growth for both learners and helpers is another positive benefit of children working together. Many youngsters need opportunities for satisfying relationships with other children to realize their own potential. For them, the experience of interacting with other children can be the highpoint of their school day. Many schools have designed programs expressly for the social development of their students. Those responsible for these programs have recognized that a well-rounded education includes learning activities which enrich the personalities of students as well as their intellectual competencies.

The generally encouraging descriptions of hundreds of applications of peer tutoring, as children instructing other children usually is called, have captured the interest of teachers and school supervisors in all parts of the country. Understandably, however, not all educators have decided they want or need peer tutoring as a regularly scheduled activity in their schools. They feel it takes time away from other classroom priorities, that it places unnecessary demands on selected students, and that it leads to confusion on the part of slow learners by exposing them to more than one source of instruction. Even more important, these practitioners feel the results so far reported are too tenuous to serve as the basis for adopting an innovative practice that requires extensive planning and coordination if it is to succeed.

Realistically, of course, peer tutoring has both some unique advantages and some practical limitations. Depending on how a program is designed and implemented, it can satisfy a number of pupil needs that are hard to meet in other ways. One authority, for example, lists 24 favorable changes which classroom teachers observed in the performance and attitudes of youngsters participating in a peer tutoring program (Lippitt, Lippitt & Eiseman, 1971). These included doing better on tests, greater participation in class, improved attendance, less disruptive behavior, heightened interest, and greater self-confidence. By and large, the same changes were noted for those students who were giving help as well as those receiving it.

No equivalent list of problems associated with peer tutoring has been prepared, but many individual descriptions of programs mention one or more difficulties, particularly of an administrative nature, that were encoun-

tered. These include heavy demands on the time of program coordinators and other school personnel, the absence of adequate space, a lack of instructional materials suitable for use during tutoring, excessive noise due to everyone talking at once; and the misuse of available helpers by some teachers. By and large these problems can be overcome. Although several studies of programs fail to reveal any measurable improvement for the participating students, none point out any adverse effects on any of the children involved.

Whether or not peer tutoring is desirable for your school or class depends on the needs of the children and the willingness of the professional staff to exert the effort required to make a program work. The outcomes of the program also will depend heavily on the way the program is designed. No two teachers or school settings are exactly the same. For this reason, no one model or approach is necessarily the best for every situation. Devising a program which is tailored to your own needs and resources is not too difficult, however, and even a modest trial is likely to indicate whether the results are sufficiently rewarding to warrant the program's continuation or expansion.

Fundamental Concepts

Teaching is essential to learning, but learning obviously depends on much more than presenting information. Before mastery is achieved, the learner must have sufficient practice to acquire skill and confidence with the new material. And, for this practice to be most useful, the learner needs both guidance to avoid mistakes and recognition to indicate progress. Much as teachers realize these needs, sufficient individual attention to meet them is far from possible in most classrooms. Some children are able

to work and progress more or less on their own. But others need considerable help, assurance, and support to learn as much and as rapidly as their abilities allow.

For these children, access to a sympathetic tutor may mean the difference between keeping up with their class or falling further and further behind. In some instances, parents, aides, or other adults can be called upon to pronounce spelling words, work through math problems, or coach reading efforts. Too often this kind of adult help is least available when it is most needed. Youngsters with learning difficulties characteristically discourage easily and, over time, become overwhelmed by each successive difficulty. Assembling adequate resources to aid these children is a challenge every teacher faces.

Yet, other children in the same school or class often are more than willing to provide the needed help. Some are highly capable students working well above their own grade levels and actively seeking ways to constructively direct their spare energies and capabilities. Others are themselves slow learners who sincerely see every opportunity to be of special value as a welcome chance to boost their own self-esteem. Still others are the quite average students who, by sharing in the responsibility for another child's growth, know they will grow themselves in confidence, maturity, and social skill. Getting helpers and learners together in ways that benefit both is the aim of most current thinking about peer tutoring.

Students helping other students has been the theme of hundreds of published reports and the focus of thousands of school-related programs throughout the country. Although the anticipated advantages of children helping other children vary from one setting to the next, most peer

teaching programs share a number of features which can be utilized in various combinations to enhance education. For the learner, the one-to-one instructional process provides the kind of individual attention which is not often possible during regular class periods. Questions can be answered, specific difficulties can be brought to light, successes can be immediately rewarded, and practice opportunities can be multiplied without all children having to wait their turn.

Even more important, tutoring can give the learner access to alternative ways of approaching a difficult topic. A new point of view may be all that is needed to overcome some specific learning difficulty. In this sense, another child may be especially helpful in arranging exercises, explaining concepts, and applying standards which more nearly match the needs of a young learner. Observers of peer teaching sessions also note the patience children frequently have with repetition. Giving the correct answer a fifth or sixth time somehow seems as tolerable to a child in a tutoring role as it is exasperating to most classroom teachers. The diminished age and intellectual differences between learners and their helpers is another aspect of the peer relationship which gives it its unique character. Many students feel more comfortable receiving individual help from someone nearer their own age than from an adult. They find it easier to discuss their problems, ask for additional assistance, and use the other child's correct performance as a model for their own.

Advantages for the school-age tutor are a little less obvious but at least as substantial. Valuable attitudinal changes frequently are observed as students, particularly those low in achievement within their own classes, experience the satisfaction of having made a real contribution to the

development of another child. Self-esteem is heightened by the responsibility of a new and useful role. Shy children frequently blossom while serving as helpers in a tutorial program. The most encouraging outcome of all, however, has been the academic progress shown by tutors as a result of their helping other children learn. In several recent studies, in fact, achievement gains for the tutors have equalled or exceeded those for the tutees!

Finally, peer teaching has opened new prospects for the kinds of comprehensive growth more and more educators are emphasizing as the real purpose of education. Many exemplary programs intentionally stress the development of "helping relationships" as ways of fostering initiative, cooperation, and social understanding. Respect, awareness, and benevolence have been reported as outcomes when children work together for each other's benefit. Even if impact on measured achievement is ignored, the contribution of tutorial experiences to the personal enrichment of the participants is a significant reason for considering peer teaching in any school program.

Scope of this Guidebook

In a practical sense, no educational innovation can be adopted without investment. Peer teaching generally requires little financial outlay, but it does represent a cost in terms of the time and effort needed to plan, prepare, administer, and sustain a workable program. This guide is neither an effort to systematically encourage the use of peer teaching nor a manual of detailed directions on how to implement some specific approach. What it does provide is a compilation of the experiences teachers and other school personnel have had with a wide variety of programs. It permits using the results of these experiences so that the time and effort devoted to preparing a program is invested wisely and productively.

The following chapter in the Guidebook looks at some of the origins of peer tutoring to put the use of students as teachers in its proper historical perspective. In this chapter, and in the rest of the volume, attention has been focused primarily on programs with learners in the primary grades, tutors who themselves are students, and materials which are representative of contemporary education. Tutoring programs which necessarily depend on aides or other adults as tutors or are suitable only for high school or college learners have been omitted.

Chapter 3 looks at some of the very carefully structured programs that have been described in the literature. These programs use peer tutoring to implement new curriculum concepts which depend on tutors to provide individualized practice following carefully defined procedures. Although these programs may be too complex to be considered useful in many school settings, the evidence in support of their success suggests they should be considered when the appropriate needs are present.

In Chapter 4, some of the flexible applications of peer tutoring characteristic of many smaller programs are examined. Because students are able to help each other in many different ways, and for many different purposes, programs have been designed which differ widely in scope and structure. The dimensions along which programs vary are considered and the reasons why existing research affords little guidance in program design are suggested. Several basic models of peer teaching that seem to be emerging from recent work are presented.

In Chapter 5, four representative peer teaching programs are described in detail. The main purpose of these illustrative programs is to identify the features of successful efforts and describe their day-to-day dynamics.

Most programs, of course, have gone through a period of development during which problems were identified and refinements were made. For this reason, emphasis in the descriptions has been given to changes in the programs which affected their operation, their effects on students, and their demands on teachers and administrators.

Chapter 6 summarizes the steps involved in planning and implementing a program of peer tutoring. Careful preparation is essential if any program is to accomplish its aims. The practical suggestions of teachers who have used peer tutoring can contribute enormously to the ease with which new programs are organized and operated. In this chapter, many questions frequently asked about peer teaching programs are answered. As will be seen, most of these concerns stem from a lack of familiarity with what happens when students help each other.

Chapter 7 reviews some of the key concepts and attempts to assess peer tutoring from the perspective of the total educational process. Some teachers who have experienced a peer program feel that the process of children working together is far more important than the measurable product of their interaction. Thus, the long-term effects of showing children how to learn by helping each other may be as significant as more immediate achievement gains. Finally, additional sources of information of particular interest to those planning a peer teaching program are identified.

CHAPTER 2: BACKGROUND

Informally, at least, students helping each other learn has been a feature of education since children first were assembled into classes. Wright (1960), for example, cites the first century Roman educator, Quintilian, as recognizing the value of peer tutoring. Wright also notes that mutual instruction by classmates dates back to ancient times in Hindu schools. The more deliberate use of students in teaching roles did not become widespread, however, until late in the eighteenth century when the Industrial Revolution awakened public interest in formal education. The history of peer tutoring in American schools begins at that point.

Lancaster's Monitors

While in his early twenties, the Englishman, Joseph Lancaster (1778-1838) took it upon himself to charitably offer the rudiments of classical instruction to a handful of needy children in London. The crowds of youngsters who appeared at his door overwhelmed him, however, and lacking assistants, he set himself to working out the details of a procedure which would allow some of his pupils to teach the others. His notions rapidly evolved and by age 30 when he imigrated to the United States, his method already had achieved a foothold in several East Coast cities.

The Lancasterian method demonstrated, more than anything else, that education need not depend on the immediate presence of a recognized master. A single teacher presented each lesson to 20 or more "monitors" who then taught that lesson to an assigned group of 10 or so pupils. In this way, every school could enroll hundreds of students at the expense of but one teacher. A typical lesson consisted of a rule followed by examples

presented in drill-like fashion. All activities were to be carried out with almost military precision, including not only assigned lessons but even movement about the schoolroom and the removing of hats in the morning.

Aside from monitors selected for teaching duties, others were chosen to take attendance, verify pupil attainment, and take charge of materials. There was even a monitor designated to monitor the other monitors. The teacher, in most versions of the system, had little to do since Lancaster's planning had anticipated almost every schoolroom event. This rigidity in Lancaster's approach led those capable of becoming monitors to leave school and take paying positions elsewhere. When untrained women who were subsequently hired as replacements proved not up to the task, programs of training young women in the art of teaching were established, creating, in essence, the first normal schools. Only at this point did "professionalsim" become a factor in pedagogy, a development which ultimately made possible the abandonment of the very explicit routines inherent in Lancaster's system.

Lancaster's general method of instruction (Lancaster, 1808) made fundamental education plausible and affordable for the urban masses. Without Lancaster's timely recognition that students themselves could be valuable instructional resources, education for everyone might never have become commonplace. Yet, while many of his detailed ideas were highly innovative, such as rounding the corners on pupil desks to reduce injuries and giving rewards in the form of tickets which later could be turned in for prizes, the need for very low cost instruction all but disappeared in this country. His rudimentary schools gradually were replaced by the more traditional institutions that have characterized education ever since.

Rural Education

Another traditional pattern of peer tutoring evolved in the operation of the one-room schools which constituted a large segment of our educational system until as recently as a generation ago. As will be described shortly, the pupils themselves are still an important part of the learning process in the thousands of rural schools which continue to survive today. Their role, which has not changed greatly in the intervening period, was clearly described in a popular teacher-training text of some 50 years ago:

> Nearly always there will be some older pupils who can be quickly shown how to assist with the younger ones. These older pupils should be appointed for this work. It will be very helpful for them, and will permit the teacher to give more time to other things. After a teacher has taught a reading or number lesson to first or second grade, some older pupils, who has been called to watch the lesson, can carry on the drill by showing cards for sight work, and by pointing to figures to be combined for number practice. Older pupils can conduct spelling lessons and correct written spelling. This will make the older ones more thorough, and it will help to organize the school into a wholesome working community. Different ones may be assigned these duties in turn, thus not making it a burden. (Woofter, 1917, pp. 52-54)

The Homework Helper Program

Although several reports of students teaching students were published before 1960 (see Dillner, 1971), recent interest in peer tutoring was stimulated largely by the first results from the Homework Helper Program. This comprehensive effort to improve education in the urban ghettos was created in 1963 by Mobilization for Youth, Inc., a New York City anti-poverty agency. According to Gartner, Kohler, and Riessman (1971), the program began with the establishment of 9 specially created centers in

New York neighborhood elementary schools. Unlike several previous programs staffed by adults, the Homework Helper Program employed high-school students from the ghetto as tutors for disadvantaged fourth- and fifth-graders. In the initial project, the younger students were tutored either 2 or 4 hours per week from November to June during the 1963-64 school year.

An evaluation of this first year of operation of the centers was undertaken by Cloward (1967). He reported that the 356 tutees available for posttesting gained an average of 6 months on the New York Tests of Growth in Reading if they were tutored 4 hours weekly for the 5 months between test administrations, and gained an average of 5 months on the test if they were tutored 2 hours weekly. Scores from 157 control subjects randomly selected for noninclusion in the experiment showed a gain of only 3.5 months during the 5-month period. Both the tutees and their control counterparts averaged a little more than 11 months below grade level at the start of the study.

Cloward's results concerning the tutors were far more suprising. The 97 tutors, who were tenth- and eleventh-graders showed an average gain on the Iowa Silent Reading Test of 3.4 years during the 7 months between their pretest and posttest. The equivalent finding for 57 controls who were randomly selected for noninclusion in the study was only 1.7 years. Cloward explained that some of the gains might well be attributable to the tutors' increased familiarity with the complex directions for taking the test. Despite equal experience with the test, tutors achieved twice the gains of nontutors. The publication of an article describing this study by the New York Times on 29 October 1967 brought attention to the program and the possible benefits that can accrue to children who tutor other children..

The Cross-Age Helping Program

Since 1962, Peggy and Ronald Lippitt at the University of Michigan have been exploring the consequences of peer tutoring on the social development of participating students. Their approach, the Cross-Age Helping Program, is based on several principles from education and social psychology (Lippitt, Lippitt and Eiseman, 1971). First, an older child can be an important source of influence for younger ones. Second, the best way for an older child to learn is by helping somebody else learn. Third, further individualization of education necessarily will depend on older students, who both are available as resources and can benefit from helping younger children. And fourth, the tutoring experience tends to positively change the older children's attitudes toward education, their teachers, and themselves.

In the Lippitt program, the tutoring periods last from 20 to 50 minutes, depending on the age and interests of the younger children, and are held 3 or 4 days per week. The participants' teachers schedule the sessions so they will not interfere with either the tutor's or the tutee's regular classwork. Any convenient place is used, such as the younger child's desk, the rear of the room, or a hallway. The content varies and has included reading, writing, spelling, mathematics, physical education and shop. In most instances, the younger children receive help individually, although small groups of tutees sometimes are formed. Tutors typically are fifth and sixth graders, but have ranged from fourth graders to senior high school students. Generally, the tutees are first and second graders. Although children in the same grade can help each other, the Lippitts feel the best results are obtained when the age difference is 3 or more years. Tutoring relationships can be directed at enrichment for brighter students,

but the benefits to both children seem most evident when older pupils performing below their grade level help younger children who also are behind.

Training for the older children is particularly important. In addition to their periodic conferences with the younger child's teacher, the tutors are expected to attend regular weekly seminars. During the seminars, which very often are part of their regular school program, the older children learn to diagnose learning difficulties, recognize the importance of learning, improve their relationships with younger children, understand the younger child's self-image and attitudes, consider alternate ways of handling learning situations, and use their colleagues in the seminar group as a resource for problem solving. Voluntary participation in the program is stressed because experience with the Cross-Age Helping Program has shown that the tutors will be maximally motivated this way if enough support also is given.

A sizable number of school districts throughout the country have adopted the Lippitt's program. There have been few empirically oriented evaluations of its effectiveness, however, perhaps because of the program's emphasis on difficult-to-measure social benefits. The most extensive evaluation, conducted in California's Ontario-Montclair School District in 1970, involved 60 students in the fourth, fifth and sixth grades as the tutees and 60 eighth graders as their tutors (Lippitt, Lippitt and Eiseman, 1971). Over the 7-month assessment period, the tutors gained an added 3 months of growth in reading and mathematics, and 2 months in language, over nonparticipating controls. The younger children's gains exceeded those of their controls by 2 months in reading and 1 month in language. Both

groups exceeded their counterparts on improvements in self-concept, leadership, discipline, and other social measures.

The Youth Tutoring Youth Program

In 1967, another major program was initiated in Newark and Philadelphia under the direction of Mary Conway Kohler. In many respects, the design of the Youth Tutoring Youth program was similar to the New York Homework Helper program already described. However, based on the results of that earlier effort, emphasis was directed primarily toward the tutors who were chosen to participate because they were significantly behind grade level in reading ability. The tutors, who were selected from among Neighborhood Youth Corps enrollees, were disadvantaged ghetto teenagers thought likely to leave school. Although Federal funds were made available for their salaries, identifying other useful social and community service tasks that could be performed by the enrollees had proved difficult.

The design for the Youth Tutoring Youth program thus met an urgent need for both the constructive employment and educational growth of low-income teenagers. At the same time, it afforded them an opportunity to help younger ghetto children gain more from school. Generally, each tutor was responsible for 2 tutees, helping each of them 2 hours per day, 4 days per week during the summer of 1967 (Gartner, Kohler and Riessman, 1971). During the 6 weeks of this pilot program, the 14- and 15-year-old tutors, who were the prime concern in this study, gained considerably in reading skills. The Philadelphia tutors, who averaged 0.4 grades behind in reading at the beginning of the summer, increased a full grade level. The Newark tutors, who averaged 2.9 grades below their age level, advanced a full 3.7 years in the course of the study.

In addition, various attitude changes were observed, such as the pride the tutors evidenced, their creativity in preparing instructional materials for their charges, and their new found interest in independent reading. So impressive were these results that similar Youth Tutoring Youth programs quickly were begun in Detroit, Washington, and Los Angeles following both after-school and summer schedules. By the fall of 1970, more than 200 school districts throughout the country were known to be using the program (Gartner, Kohler and Riessman, 1971). In addition, the concept was incorporated into the U.S. Office of Education's Career Opportunities Program which was operating in 131 communities in all 50 States.

A key philosophy of the Youth Tutoring Youth program has been its willingness to rely on the "inner resources" of the underachieving, disadvantaged youths hired to serve as tutors. By giving them full responsibility for the tutoring of younger children, they are expected to grow in confidence, self-image and individual development. The tutor is given the freedom to select the content of the tutorial sessions and devise the learning experiences and materials that will be presented to the tutee. As a consequence, the tutors tend to devote an amazing amount of effort to developing exercises that will be both pleasurable for younger children and helpful in improving their skills.

Innovation and a personalized approach to the tutoring task are encouraged. As in the Lippitts' program, training is considered an essential requisite to success. In this case, however, emphasis is given to training the teachers, community representatives, and school administrators who will direct the program in their own school districts. These individuals are brought to an existing Youth Tutoring Youth center for 2 to 6

days to work with the staff and tutors of the ongoing project and learn from them how the program should operate. Special attention is given to letting these prospective supervisors see for themselves the seriousness and industriousness shown by the tutors as they go about their activities.

The Dedham Project

Still another systematic effort to introduce peer tutoring to meet educational needs was begun by Donald Durrell and his associates in the Boston, Massachusetts area in the mid-1950's (Durrell and Palos, 1956). The basis for these programs were "Pupil Study Teams" consisting of pairs or small groups of children working together on classroom assignments. Typically, 3 to 5 children would be assembled into a study team and asked to work out answers to a number of questions. By completing the assignment collectively, the children not only seem to enjoy school more, but profit as well from the increased opportunity to express their ideas and discuss the ideas of others. Either homogeneous or heterogeneous groups can be used depending on the nature of the assignment and what kind of interaction and practice the teacher wants to encourage.

A test of Durrell's program was carried out in Dedham, Massachusetts during the 1958-59 school year. A total of 803 students from 35 fourth-, fifth-, and sixth-grade classrooms participated. A variety of study team activities designed for core educational subjects were used throughout the experiment under the direction of the classroom teachers and during normal class time. Comparisons with the performance of each teacher's class for the preceding year indicated meaningful improvements in achievement for fast, average, and slow learners in grades 5 and 6, although not for grade 4. Altogether, the sixth-grade students averaged 6 months greater

gain in achievement than their controls, and the fifth graders averaged 4 months additional achievement (Durrell, 1960).

These more widely known peer tutoring programs have served as models for hundreds of programs that since have appeared in both large and small schools everywhere in the country. They are not the only models that could be used to plan a new program, however. Some schools have adopted still other approaches or have created their own version of an existing program. Examples of many of the more prominent and innovative of these newer programs are described in the following chapters.

CHAPTER 3. STRUCTURED PEER TUTORING

Instruction in the programs already described is more or less left in the hands of the tutor and is meant to remedy apparent defects in ongoing classroom instruction. This is not characteristic of all peer tutoring programs. It also is possible to begin with the tutorial concept and then construct an entire instructional system around the use of students or other nonprofessionals as the system's primary teaching resources. In these peer programs, instruction consists of carefully structured materials administered to the learner by another student in precisely defined sequences. The procedure permits many more students to practice simultaneously than is generally possible when an individual teacher works with an entire class.

The SWRL Program

One of the more comprehensive of these structured programs was developed by Niedermeyer and his associates at the Southwest Regional Laboratory for Educational Research and Development (SWRL). This system was designed for use with SWRL's "Beginning Reading Program," published by Ginn and Company. The materials represent a comprehensive reading curriculum for elementary schools which begins at the kindergarten level. By the end of the first year of instruction, most preschool children who learn from the program are able to recognize the words on a basic word list, sound out unfamiliar words, and demonstrate their comprehension on a test built around the basic words.

Because considerable individual practice is required to reach these goals, an accompanying in-school tutorial program was prepared for use

with the Beginning Reading materials. In it, fifth- and sixth-grade tutors help any kindergarten children who are falling behind. The key principle underlying the program is that, for learning tasks requiring extensive repetition, nonprofessional tutors can effectively but inexpensively be used to strengthen learning originally presented by the classroom teacher. Tutoring sessions are 20 minutes long and are held 3 times per week during regular school hours. Specially prepared remedial exercises are prescribed for each tutee based on diagnostic test results obtained after each 3-week learning unit.

An evaluation compared pupils in 4 schools where tutoring was used with pupils in 4 similar schools who received any needed remedial instruction from their regular teacher. The tutors and teachers used identical remedial exercises. The gains made by the 57 children helped by tutors were significantly greater than the gains made by the 39 pupils helped by their own teachers. A related study yielded similar results, with those receiving remediation from both their teachers and tutors gaining approximately 6 times what was gained by those pupils who received remediation from their regular teachers alone (Niedermeyer and Ellis, 1972).

The designer of the tutoring program, Fred Niedermeyer, feels that effective tutoring involves "much more than simply placing tutor and learner together and hoping that 'something good' will happen." He believes that a thoroughly structured system is essential to the large-scale use of tutors. Without structure, tutor-based instruction may be inefficient and ineffective. A teacher may have the training, background, and experience needed to salvage instruction based on poor materials, but this is beyond a tutor's capability. Niedermeyer's research has shown

that the tutors must be trained carefully if the program is to work. However, because of the support provided by the materials, training for his program can be accomplished in only 1 or 2 hours.

The Structured Tutorial Reading Program

One of the most experienced creators of highly structured tutorial programs is Grant Harrison at Brigham Young University. His efforts have been directed at more systematically introducing reading to nonreaders. He sees his approach as a combination of programmed instruction and audio-teaching, two ingredients which are particularly necessary when working with students who are not yet able to read. The basic materials included in his Beginning Reading Program are very precise, but somewhat limited in their objectives because not all letter sounds are covered. Nevertheless, a student who completes the first book is able to read a number of simple stories based on what he has learned. At the end of the second book, he is expected to be able to read far more complex materials containing words such as "bracelet" or "circumstances."

Very elaborate instructions have been prepared for the tutors, who may be older students or adults, on what to do at each step of the program. Profile sheets prepared on the basis of each child's entering performance indicate what instruction is required. When tutoring begins, flash cards are used to provide practice on the individual skills that child needs to master. Instructions to the tutor on how to use the cards, what to say, and even how to arrange the chairs for the tutorial session are carefully laid out. The learner gradually proceeds through increasingly difficult decoding exercises and on to reading the stories. For most situations, it is recommended that tutoring be limited to one half hour per day. Between 8 and 15 hours are required to complete each volume.

The results obtained with this approach have been generally positive In one unpublished study carried out by Harrison, 100 6-year-old and 43 7-year-old nonreaders in the Provo, Utah, elementary schools were taught the contents of the first volume of Beginning Reading over a 6-week period by volunteering older students. The 6-year-olds rose from an average score of under 20 percent on the pretest to over 70 percent on the post-test. Approximately 60 percent of the first graders were able to read stories for themselves by the end of program. Comparable results were obtained for the second graders. In another unpublished study, Harrison found that 156 nonreading second graders obtained an average score of over 80 percent on the end-of-program test after being helped by fourth-, fifth-, and sixth-grade students. Tutoring sessions were 15 minutes in length, 4 days per week, for 5 months. The performance of these learners, after tutoring, was then equivalent to that of students of the same age who had not been in need of remedial help.

Programmed Tutoring

Another advocate of structured tutoring has been Douglas Ellson and his associates at the University of Indiana. The Programmed Tutoring approach is based on the notion that carefully controlled, reinforced practice is essential to learning. Although this kind of practice often can be organized for learners who are capable of following directions by themselves, this obviously is not possible for those just beginning to read. Furthermore, children at this age are likely to be quite variable in what they already know. At this point in their education, the content of instruction should be highly individualized. On the other hand, demonstrably successful teaching routines should be applied to the content that is taught to insure instructional success.

The tutors in Ellson's approach are responsible for following a carefully defined procedure for each item in each day's lesson. For example, the child may be asked to read the words on a series of flash cards. If the learner responds correctly, the tutor rewards the pupil and continues on to the next card. If the learner makes an error, the tutor coaches the younger child until the correct response is given. After the cards have been gone through once, those not requiring coaching are eliminated and the process is repeated until all words are given correctly without aid. Coaching methods may vary depending on the type of lesson, but they always are explicitly prescribed.

In a field test of one group of materials, 34 first-grade children were tutored in reading in addition to their regular classroom instruction (Ellson, et al., 1965). Two 15-minute tutoring sessions were held daily for a period of 12 weeks. Standardized achievement test scores showed that the progress of the participating children was about 17 percent greater than that of an equivalent number of other first graders who received only their regular classroom instruction.

Peer-Mediated Instruction

A materials-based program in spelling, vocabulary and other remedial English skills has been described by Rosenbaum (1973). His Peer-Mediated Instruction model grew out of his earlier work on computer-assisted instruction of the kind in which the sequence and content of each step in the lesson is determined by the student's response to the preceding steps. While it was recognized that this type of CAI has considerable merit, it seemed too expensive a process to be adopted widely by the schools. As an alternative, Rosenbaum suggested that students work in pairs, with each

student taking turns simulating the role of the computer for his partner. This, he found, could be done with almost no training for the tutors if the tasks were carefully structured.

The first test of this approach was conducted with 20 third-grade students in a New York City public school. The content consisted of a series of exercise materials designed to teach the correct spelling of 120 words. At the beginning of each session, the participating students were randomly paired, with each member of the pair alternately serving as tutor and learner. During the lesson, the tutor read a list of words to be spelled, along with a sentence containing the word. Fourteen words were presented in each lesson. As each word was read aloud, the learner attempted to write it. If the spelling was correct, the tutor continued on with the next word; if it was wrong, the tutor crossed out that part of the learner's spelling which was incorrect and presented the word again. If the learner was right on the second attempt, the lesson proceeded. If another mistake was made, the tutor crossed out the errors in the second attempt, wrote the correct spelling for the learner, and then presented the following word in the lesson. After the first pass through the lesson had been completed, a second pass was made, but this time only those items that had not been written correctly by the learner during the first attempt were included. The lesson continues in this fashion until every word has been spelled correctly. Student performance on a test of a sample of the words in the 8 lessons in this study increased from 45 percent correct to 69 percent correct, with individual students showing an increase of from 10 to over 40 percentage points.

A more recent study involving 252 junior and senior high school students in Jackson, Mississippi, focused on remedial English skills. In this experiment, which again followed the general approach of Peer-Mediated Instruction, the average student at each grade level gained at least 1 full year on the Nelson Test over a period of 1 month of instruction. In the Jackson study, the materials were designed to be reusable; on the basis of their cost, it was calculated that a similar remedial program based on classmates helping each other could be installed elsewhere for less than 70 cents per participating student (Rosenbaum, 1973).

The Vanguard Teaching Model

Still another carefully structured approach to the use of tutors has been developed by Louis Bright and his associates at the Western Institute for Science and Technology (WIST). Their Vanguard Teaching Model combines tutorial assistance, individualized instruction, and a system of rewards into a comprehensive teaching program that is both cost- and learning-effective (Bright, 1972). In the Vanguard model, tutoring is an integral part of in-school instruction rather than simply a resource for remedial needs. Each of the older children serving as a tutor is responsible for the reading instruction of several younger children.

The special tutoring sessions occupy an hour to an hour and a half of the regular school day. At the beginning of each session, the learner is assigned an individual learning task by a tutor, who also is responsible for the work of between 2 and 10 other students. As soon as the learner completes the task, which usually is in the form of one or more exercise sheets, it is evaluated by the tutor. If the preset criterion level has been reached, the learner is awarded some number of "points" by the tutor

delivered by punching holes in the learner's record card. If the criterion was not reached, the learner must repeat the lesson. Learners who fail the same unit subsequently are assigned an alternative exercise or, if necessary, given individual help by the tutor.

The use of carefully controlled rewards is crucial to the system. No punishment is ever given. Instead, progress through the units, as well as the learner's apparent concentration and other desirable behavior, is rewarded with points which can be traded, at any time during the learning session, for permission to spend time in a separate recreational area supervised by additional tutors. Here the learner can play with toys and various games, draw, or do other things most children consider fun. Alternatively, points can be saved and later traded for trips to buy ice cream, visits to the zoo, or for invitations to parties. The tutors also are rewarded by points which they similarly can trade for desirable prizes and activities.

The learning tasks assigned by the tutors are determined on the basis of diagnostic test results and the learner's actual progress through the instructional exercises. Wall charts are used to help the tutors formulate an accurate prescription, or assignment; for each child each day. When appropriate, the tutors also are expected to devise new activities, particularly for problem students. The use of these informal materials, as well as tutor-suggested deviations from the laid-out sequence of exercises, always must be checked with one of the program's teachers before being implemented. Because of the amount of responsibility given to the tutors, they are closely supervised. In addition, they participate in a 10- to 15-hour training program and meet together daily with the teachers.

One type of material used in the Vanguard program is the specially designed WIST Reading Program which allows each learner to work without help. Designed for beginning learners, it teaches them the sounds of 21 letters plus the sounds of one-syllable words made up of these letters. At the end of the program a student is able to read more than 200 words. Student materials consist of exercise sheets, recorded tape cassettes, and various enrichment and remedial materials such as story tapes and word books. As the student looks at a strip of pictures in each word recognition exercise, the appropriate instructions are heard on a cassette recorder which the student operates.

The Vanguard program has been tested in a number of different settings, and the results are encouraging. In one study, 29 5-year-olds tutored by sixth graders using the WIST materials increased their scores on the Metropolitan Reading Readiness Test from the 7th to the 44th percentile in 6 months (Bright, 1972). In another study, 17 first graders were tutored by a group of 8 fifth-grade students, again with the WIST materials. During the 6 weeks of the demonstration project, the average learner gained 6 months on the Wide Range Achievement Test (Bright and Colosimo, 1971). Improvements also were reported in the behavior of both the learners and the tutors as a function of the reward program.

The Use of Structured Programs

Three conclusions are suggested by this brief survey of highly structured uses of peer tutoring. First, the systems work; they consistently improve the performance of learners, at least on the specific skills covered by the instructional materials. Furthermore, the learners who participated in almost every test of these programs were from educationally disadvantaged groups including Spanish-speaking Americans, inner-city children, American Indians, and the mentally retarded. Many of these disadvantaged students may need the carefully sequenced, step-by-step instruction which these programs provide to overcome their deficits. Certainly, schools where present educational programs directed at basic skills are not effective should consider structured peer tutoring for students in need of compensatory instruction.

On the other hand, available research fails to suggest that these programs are uniquely better than alternative approaches, particularly for students who are not disadvantaged. Typically, studies reporting favorable outcomes following the use of structured tutoring do not contrast their results with what would be produced by an equivalent amount of conventional instruction. In a study by Ronshausen (1974), for example, an arithmetic program based on Ellson's Programmed Tutoring approach yielded a significant gain on the mathematics subtests of the Metropolitan Achievement Tests for students who received an average of 24 hours of tutoring in addition to their regular classroom instruction, but not for a second group which averaged only 15 hours. This may be an important consideration for schools reasonably satisfied with their present reading or mathematics instruction.

A second conclusion is that most structured programs represent changes in curriculum as well as in teaching methods. The materials tend to be rigid and, consequently, boring. The tutors are given little freedom to adapt the instruction to the individual interests of the learners. The contents frequently are limited to a core of skills selected by the developers of the program and these may not coincide with an authorized syllabus. Changing the curriculum in order to make use of peer tutoring could be difficult and expensive.

The third conclusion is that existing structured peer tutoring programs are directed primarily at benefits for the learners. There is no evidence to suggest any advantages for the tutors similar to those reported for the Youth Tutoring Youth and Homework Helper programs. There also is no reason to expect participants to exhibit the social growth aimed for by the Lippitts in their Cross-Age Helping program, although Bright and his associates have reported reductions in disruptive behavior among both learners and tutors in the Vanguard program.

CHAPTER 4. FLEXIBLE PEER TUTORING

Most peer tutoring programs have far less structure than those described in the previous chapter. The responsibilities of the tutors are more variable, the aims of the sessions are more flexible, and the needs served by the programs are more diversified. These less structured programs have considerable appeal as models because each school or classroom can freely adjust its use of peer tutoring to meet the unique, and sometimes changing, requirements of its students. The breadth of differences among typical programs is illustrated by the following examples.

Fredonia, New York

In this small program, 16 students in the fifth and sixth grades at the Wheelock School voluntarily offered help to an equal number of second and third graders in maths over a period of three months during the 1971-72 school year (Mohan, 1972). All participants earlier had been identified as being among the lowest tenth of their classes in scholastic motivation. Following a brief training session for the tutors, the twice-weekly tutoring sessions began. Each tutor was given a criterion test representing what the tutee was to achieve during the hour-long session, but the conduct of the lesson was left to the older child. Schedules for the tutorial sessions were worked out by the 2 teachers.

All 19 of the teachers involved with the program felt their pupils enjoyed the experience, 16 of them noted benefits for the participating children, and 15 felt the program should be continued. The 4 teachers who believed otherwise were concerned mainly with the effects of the program on lesson scheduling for their own classrooms. Questionnaires

indicated the parents of 30 of the 32 children felt they benefited from the program and 28 recommended the program be continued. The students unanimously liked the program, felt they benefited from it, and wanted to see it continued.

Objective measures were administered to both the participating students and a roughly equal number of nonparticipating controls. The tutees showed a notably greater improvement in self-reported motivation than their counterparts during the study, and obtained an average posttest math score more than 3 times that of those who did not participate. The tutors similarly evidenced relative gains in attitude and teacher-observed motivation. And, as has been found in a number of other studies, the tutors gained substantially in math achievement as a result of helping others. Their posttest math scores were nearly twice those of corresponding students who were not included in the program.

Los Angeles County, California

In the Los Angeles area, a Neighborhood Youth Corps summer project was planned around a program of tutorial assistance to slow readers in elementary schools from 16 school districts (Landrum and Martin, 1970). Tutors were selected from among high-school age applicants who were from low-income families, had withdrawn from school or had indicated their intent to drop out, and were at least 2 years below grade level on standardized reading tests. The tutors were paid an hourly rate for their participation. The tutees were fourth-, fifth-, and sixth-grade students enrolled in a remedial summer program at their own elementary schools. A teacher at each school trained and regularly supervised the 5 to 7 tutors assigned to his room throughout the 6-week period.

Each daily tutoring session lasted 2 hours. The tutors worked first with one child and then with a second, so twice as many learners as tutors participated in the program. An assessment of reading achievement during one year of the project showed that the 686 tutees gained an average of 4.8 months during the 6-week period. At the same time, the 343 tutors who assisted them improved an average of 8.5 months in their grade placement in reading. There also was some evidence that the tutors were more likely to have satisfactory attendance, attain passing grades and complete high school than similar students who did not have experience in tutoring other children.

Springfield, Massachusetts

As an experiment, 12 underachieving boys in the seventh grade were asked to tutor 12 underachieving boys in the third grade for a period of 5 months (Erickson and Cromack, 1972). Tutoring sessions lasting a half hour each were scheduled twice a week. During a session, the tutors read to the learners, played oral word games and talked with them to strengthen their oral language skills. The participating third graders gained 3 times more from the experience, as shown by standardized reading scores, than their nonparticipating classmates. Results for the tutors, when compared with the test scores of the remaining students in their class, did not indicate any appreciable improvement in measured reading skill, however.

New Haven, Connecticut

At the Prince Street School, 16 sixth-grade pupils were recruited to help first graders who were falling behind in reading (Criscuolo, 1973). The tutors were chosen specifically because of their own behavioral, attendance, and reading problems. Tutoring sessions were held during

2 half-hour sessions each week for 30 weeks. During the sessions, the tutors used simple reading materials and games chosen by the school's reading teacher as appropriate for the learners. The reading teacher also conducted weekly training and lesson planning sessions with the tutors, and coordinated the program's activities with the first-grade teachers.

No systematic evaluation of progress made by the tutees was carried out. Assessments were made, however, of changes in the attitudes, attendance, and achievement level of the participating tutors. Measures of attitude and attendance showed no meaningful improvement for the sixth graders, although their own teachers felt they had become more enthusiastic about their own work. Achievement measures were somewhat surprising. Over the year, the sixth-grade pupils made about their expected progress in arithmetic but actually lost ground in their reading skills.

Los Angeles City, California

The entire Soto Street School was reorganized during the 1967-68 school year to accommodate intergrade tutoring for all of its pupils (Ebersole and Dewitt, 1972). Through staggered class schedules in the lower grades, poor readers arrived early so they could be helped by older students, and the better readers stayed late so they too could receive individual assistance. Half of the upper-grade pupils served as tutors during each of these periods. Each daily tutoring session lasted about 20 minutes and followed a carefully tested procedure of word review, story reading, and word study.

The results, as measured by standardized reading tests, not only demonstrated gains for the participants, but also showed improvements in the magnitude of these gains from year to year. Prior to the program, for

example, only 4 percent of the first graders were achieving a satisfactory level of reading performance. This grew to 25 percent following the first year of tutoring, to 35 percent during the second year, and to 41 percent at the end of the third year. Test findings also showed that the effects were cumulative. While only 4 percent of those who were first graders before beginning of the program reached satisfactory reading levels during that year, 81 percent of these same students were acceptable readers as fifth graders following 4 years of participation as learners and then tutors in the program.

Differences Among Programs

Even these few descriptions reflect the substantial differences which exist in how programs have been designed. It would be helpful, of course, to be able to look to research results for guidance in deciding which kind of program would best meet some outstanding need. Unfortunately, however, there is very little empirical evidence which is useful in planning a flexible program similar to those most schools have adopted. Most reports on peer tutoring describe case studies rather than experiments. These studies show the effects of some use of peer tutoring compared with not using it, but they ordinarily do not include the systematic manipulation of program features to see if meaningful differences result.

The more rigorous experiments that have been reported generally have little in common with the programs that have produced the most substantial outcomes. Almost all of the successful programs already described, for instance, were carried out over a period of at least several months. If that long a period is required for success, a research finding that classroom instruction is more efficient that tutoring when learning is measured

following a single 30-minute tutorial session (Bausell, Moody and Walzl, 1972) simply is not relevant to program planners. This same limitation is evident in a study by Cicirelli (1972) on the effect of sex differences in the pairing of students on the outcomes of a single, 10-minute tutoring session and an experiment by Richer (1973) on whether it was better to be tutor or learner when children in the same grade were paired for 2 15-minute tutoring sessions.

Longer experiments which might provide more useful guidance tend to yield insignificant differences among treatment groups or tend to measure only narrow outcomes. For instance, Salomon and Achenbach (1974) studied the effects of 10 weeks of tutoring on fifth-grade students whose reasoning performance was overly dependent on situational cues. No differences appeared among groups tutored by adults, seventh graders who themselves were overly dependent on situational cues, or seventh graders who were not cue dependent, although all learner groups showed significant gains over untutored controls. Ramirez (1971) found that sixth graders who tutored first graders for 2 to 5 months did not improve their problem-solving skills more than control sixth graders. However, informal observations of attitudinal changes in the tutors by the school staff led the school to request the continuation of the program in the following year.

Nevertheless, when the overall pattern of results from case studies and experimental investigations are combined, several conclusions concerning flexible peer tutoring emerge. First, an overwhelming proportion of reports favor peer tutoring. Many present no quantitative evidence, describe only the outcome of interest to the investigator, or give results which are statistically significant but represent only small magnitudes of improve-

ment. It also is quite possible that programs with less favorable outcomes are less likely to be reported. Yet, there are a sufficient number of positive reports to conclude that flexible peer tutoring can produce substantial benefits.

Second, the diversity of successful programs suggests that combinations of program features rather than individual variables determine the results. The characteristics of the tutors, for example, are likely to influence their training and their supervision. All three then work together to influence program outcomes. Young or less able tutors need more training than other tutors but, once this training is given, a program using fifth graders as tutors probably will do as well as one using seventh graders. What seems to be most important is that all parts of a program fit together and that each part is practical for the school where the program is to operate.

Third, the advantages of peer tutoring may be most evident when the program deliberately introduces types of learning experiences which contrast with those already available in the students' regular classroom. Learners who have fallen behind their class already have received special attention from their teacher; the advantages of tutoring may result from the tutor offering a fresh point of view or new approach to help the learners overcome their problems. Similarly, tutors who need additional practice or confidence may profit from a tutoring program because that self-directed learning experience is different from their usual classroom assignments. For this reason, a peer tutoring program that is effective in one setting may not be as effective in other settings where the students' needs are different because a different approach to instruction routinely is used.

The Components of Successful Programs

One reason why case studies describing successful programs do not permit many conclusions about how other programs should be designed is that most programs seem to have been adjusted as they went along to eliminate problems and heighten benefits. Any peer tutoring program which attempts to meet the needs of students in a specific school or classroom probably requires a similar period of development during which the original design is modified on the basis of feedback from teachers and participants. Copying a program that was successful elsewhere can be a difficult task and may not yield equally satisfying outcomes. Existing programs can be examined, on the other hand, to identify the features which most program designers feel are important enough to describe. These are aspects of peer tutoring which ought to be considered when any new program is being planned.

1. Learners range from preschoolers to university students. Successful programs at all levels have been reported, but programs which attempt to focus on learners from more than 2 or 3 grades are rare. Typically, tutoring is offered either to all students in the receiving class or to those most in need of remedial assistance.

2. Tutors most often are about 3 years older than the learners although several programs have been reported where students in a class tutor each other. Gains to the tutors tend to be more likely when the tutors were selected because they were underachievers themselves.

3. Content varies from reading and mathematics to camping trips and sports. The content for any particular program seems to have been selected because the current instructional program in that area was not as effective as desired.

4. Supervision of the tutorial sessions differs among programs, but almost all report that some was provided either by the program coordinator, the receiving teachers or the sending teachers. Supervision need not be continuous, and weekly meetings with the tutors appears to be sufficient.

5. Training for the tutors is reported as important in almost every program. Typically, about 10 hours of instruction is given in preservice sessions, and then a weekly inservice session is held for the length of the program.

6. Schedules for programs vary, but the more effective programs seem to include at least 30 hours of tutoring. This time may be spread over as few as 2 half-hour sessions a week for the school year or compacted to an hour each day during a 6-week summer session.

7. Pairing of tutors and learners on the basis of ability, sex, or personality seems to have very modest, if any, influence on the success of a program. Many programs have allowed the children to pair themselves without any detrimental consequences.

8. Participation by the tutors, learners and even teachers characteristically is voluntary in most programs, and particularly those aimed at social development. Forcing unwilling children to participate probably causes unnecessary problems.

9. Materials prepared beforehand for use in the sessions seem to be required. These materials can be those used regularly by the learners, or they can be purchased or developed especially for the program. Tutors seem to gain most when they participate in the preparation of the materials they will use.

10. Procedures recommended to the tutors vary considerably depending on the aims and content of the program. Most programs do provide the tutors with at least some fundamental procedures which they can then adapt to meet their needs and the interests of the learners.

Ultimately, enough useful research will be conducted to help planners devise their peer tutoring programs on the basis of solid empirical evidence. Meanwhile, the insights and experiences of those who have worked with peer tutoring are the best source of information on how programs should be designed. Some knowledge has been accumulated on which elements of a program are likely to have the greatest impact on its outcomes. How these elements can be combined into a plan which will be successful in a given school setting presently must depend on the judgment of those who know that setting best. It may be helpful, however, to look at some models for flexibly structured programs that are aimed at different needs.

Cooperative Practice

Perhaps the simplest use of peer tutoring is to increase the practice opportunities available to all the students in a class. The traditional method of having individual students recite or respond directly to the teacher alone is both time consuming and inefficient. Organizing students into pairs or small groups allows many more children to practice simultaneously than otherwise would be feasible in a normal classroom. Unless specially skilled or trained, of course, most school-age tutors would not have a teacher's insight into the causes of errors or the necessary competence in overcoming mistakes. Nevertheless, there are many learning tasks which could be aided by additional practice opportunities even if unaccompanied by knowledgeable guidance.

Several structured programs where this kind of tutoring has been used already have been examined. In Rosenbaum's Peer-Mediated Instruction, for example, students take turns administering practice exercises to each other according to very specific instructions covering exactly what is to be done at each step. The tightly organized reading programs created by Harrison and others follow a similar approach. In these instances, at least, the only demands on the tutors are that they stick carefully to the directions given them. Little or no judgment is required to assess the correctness of the learner's response or to demonstrate what was wanted if an error has been made.

Particularly at the lower grades, there are large numbers of activities that would fit well in flexible adaptations of this approach, including spelling, arithmetic, and word recognition drills. Much of the same practice could be incorporated into seatwork or group recitation, of course, but tutoring could help insure that mistakes are detected, and that the problems which produced them are immediately remedied. Furthermore, practice could be better tailored to each child's unique needs by adaptive procedures which permit added repetition on those items which have not yet been mastered. This kind of tutoring can be carried out within any individual classroom and requires no special arrangements. Even the materials pose no problem since flash cards or simple exercise sheets will serve nicely.

A number of practical classroom programs have been designed along these lines. In Alamo Heights, Texas, first graders were paired with a classmate of roughly equal ability and were asked to take turns reading to each other. As one child read from a story appropriate

to the pair's ability, the other listened and made corrections. If neither knew the word, a raised hand brought the teacher. Disturbances were minimized by seating the children in two's around the room facing the walls (Getchen, et al., 1973). In an experimental study at an elementary school in Salt Lake City, Utah, flash cards were used to teach randomly selected pupils unfamiliar German words. Learning was found to be better when the children worked in pairs with instructions to provide feedback to each other than when they worked alone (Myers, et al., 1965).

If the class is heterogeneous in ability, still other tutoring techniques can be tried. Students not only can grade each other's papers, but pairing a poorer with a better student will allow one to coach the other and identify which problems need to be done over. Students behind in reading can read aloud to a classmate who is farther ahead. This may not be as helpful as reading to the teacher, but it perhaps is more constructive than either child sitting idly waiting for his group's turn in the reading circle. A better student also can be chosen to help a child make up work missed during an absence.

The creation of learning teams of the kind described by Durrell is still another way practice opportunities can be expanded in the ordinary classroom. Even at the lower grades, the chance to informally exchange information or ideas with other students might be an added encouragement for shy children who are reluctant to participate in teacher-led discussions. Groups also have the distinct advantage of allowing children to work together and cooperate on a single issue. In some settings, at least, the consensus of the group may be a more powerful and constructive influence on individual learners than a teacher's reply.

Tutorial Assistance

Most flexible peer tutoring programs are directed at active instructional assistance to the learner, either to remedy deficiencies or to complement the regular teaching process. Both cross-age and cross-ability pairings have been used, although arrangements in which older children help younger children are by far the more common. Because they are older than the learners, these tutors generally can be given more responsibility than in the practice settings just described. Usually, they will be able to demonstrate wanted behavior since they already have mastered that skill or knowledge. And, because they are much nearer to the learner in age and stature than an adult teacher, they often can serve as a more believable model.

Children themselves also are likely to be more sensitive, or at least perceived as more sensitive, to learning difficulties than teachers. Tutors are not so removed from the learning task as to be unsympathetic to misunderstandings and confusions. Similarly, students in tutorial roles can be far more patient toward the need for constant repetitions than a classroom teacher who must look after the needs of a number of children simultaneously. And, finally, the learner may respond more openly and freely to another child. This potential intimacy may be particularly beneficial where the effects of racial, economic, or ethnic barriers prevent easy communication between students and teachers.

A number of design trade-offs seem to influence the results of tutorial assistance programs. The first concerns whether the program focuses on the learner or the tutor. In most learner-centered programs, the materials are highly structured and tutor's role is fully and precisely

defined. The intent of these programs is to use available students as teaching resources to increase the skills of younger children. Those who have used this approach generally are satisfied with the results as they relate to learner gains, but these programs often are boring and unproductive for the tutors.

Tutor-centered programs are largely unstructured, at least with respect to instructional procedures, and sometimes even with respect to content. Perhaps the most extreme examples are those where upper-grade students use a nearby kindergarten or preschool as a learning experience laboratory for a course on child growth or family life (Gracey and Houghton, 1971). Although the added attention for the younger children probably is beneficial, the design of the program is aimed at how much the tutors learn. It should be obvious, on the other hand, that the energies and talents of the older children could, at the same time, be directed at systematically improving their learners' social and academic skills.

Programs between these two extremes often aim at gains for both the learner and the tutor, but with varying success. In Austin, Texas, for instance, fifth- and sixth-grade students tutored 40 underprivileged younger children in reading for 20 minutes each day, 4 days a week, for 8 weeks. There was a substantial gain in the performance of the tutees, but participating in tutoring had no effect at all on the reading level of the older children (Snapp, et al., 1972). In Levittown, New York, 120 ninth graders participated in a program where high achievers helped low achievers with English grammar in 3 weekly sessions for the entire school year. While the gains in performance for participating tutors was substantially better than for corresponding control students, the tutees

actually learned less than an equivalent group of nonparticipants (Davis, 1967).

Additional studies have been done which show gains for both groups. In a rural New York State school, 13 students in the eighth to twelfth grades tutored 16 students in grades 2 through 5 who needed extra help. The tutoring sessions were held 3 times a week for 4 months. There was no set structure for the lessons, and the tutors were encouraged to use their own teaching methods to provide assistance in content areas selected by the younger pupil's teacher. In this experiment, the tutees gained an average of 7.1 months on the Wide Range Achievement Test, while an equivalent control group advanced only 2.9 months. Participating tutors gained an average of 12.6 months during the study, while their nonparticipating counterparts increased their scores by only 5.9 months (Morgan and Toy, 1970).

As noted earlier, more research will be needed to ascertain why this approach to peer tutoring yields such different quantitative results in different applications. However, educators who have had experience with children teaching other children have been able to identify a number of plausible contributing causes to explain the lack of consistency in the outcomes from flexible tutorial programs. First, it seems probable that some changes do occur which simply are not evident in the results of tests administered to establish performance changes. Either the amount of tutoring was insufficient to produce visible differences or the tests used were not sufficiently sensitive to detect the changes that did take place.

A second possibility is that the participants selected for some of these programs were impossible challenges from the start. Tutoring often will do some good and may, in particular settings, be even better than instruction provided by a regular classroom teacher. But it is not a panacea that should be expected to work wonders with each and every child regardless of that child's difficulty. Some younger children who are behind in their work probably can make good use of individual help from an older student, and many tutors who themselves are poor students are likely to show improvement both academically from working with lower-grade materials and socially in acquiring self-confidence from helping a younger learner. But children who truly need the professional help of a teacher should not be expected to experience similar gains.

Finally, a third possibility is that the nature of the tutoring session itself determines what will result. If the content is largely left to happenstance, or the instructional demands placed on the tutor are too great, the chances of notable improvements in the measured performance of the learners are not too promising. Similarly, if the procedure is rigidly outlined for the tutors or their training and support are insufficient to let them experience personal success, the program will be viewed by them as tiresome and unstimulating and the development of their skills will be improbable. But it is possible to create programs which have adequate structure and yet permit individuality, thus opening the way to gains for both participants.

The most successful flexible cross-age tutoring programs seem to be those in which clear criteria are established for each session or group of sessions on the basis of the learner's needs but which permit the tutors

to use their own creativity to adapt the instructional process to reflect their own talents and their perceptions of what seems to work. If both children know what is expected from the session, more will be accomplished than if the teacher simply gives a vague 'study this' or 'practice that' assignment. Positive direction is essential if the learner is to make regular progress.

Tutors, on the other hand, are unlikely to learn unless they have an opportunity to build on their relationships with the tutees, try new examples and approaches, and be rewarded for their efforts to understand the learners' problems. Tutors must be taught and helped to prepare lessons that have an adequate chance of success, but then they must be given enough freedom to try out their skills on their own. They must be provided with sufficient resource materials to understand the content themselves, but they should be encouraged to work with the materials and prepare their own lesson tools. This kind of flexibility seems necessary if the tutors are to develop their own competencies.

The same principles probably determine the social outcomes of tutorial programs. Learners will gain most from a warm, sympathetic and patient tutor, but these qualities cannot be assured unless the tutors get help in how to meet these expectations. Similarly, increased confidence, pride and maturity on the part of the tutor can come only from trust, respect and cooperation on the part of the involved teachers. Being watched continuously is not conducive to personal growth. In order to learn responsibility, the tutor must have an opportunity to be responsible. Students can learn to help each other only in an atmosphere where helpfulness is both practiced and encouraged.

Teaching by Monitors

Using students to teach groups of children has not been particularly prevalent since Lancaster's time. Students often are called upon to recite in class, of course, and other children are expected to learn from what they hear. However, students are not regularly considered as potential sources of original instruction. A bit of reflection suggests that this need not always be the case. While students are not likely to have the same instructional skill and depth of content knowledge as their teacher, they may be better able to present difficult concepts in a way that other children can understand. Several educators have at least considered this possibility.

In Montebello, California, students in an industrial arts class are regularly called upon to prepare and present a lesson segment. According to their teacher, making the students partly responsible for regular classroom instruction serves two purposes. First, students who do the lecturing quickly discovers flaws in their knowledge and defects in the way they have organized the material. Repeated practice in being responsible for a lesson should substantially improve most students' ability to judge the quality of their own approach to learning. Second, lessons presented by a student appear to encourage far more participation and discussion by the rest of the class than if given by a teacher. Listeners seem far more willing to reveal their lack of understanding to their own peers (Trasin, 1960).

In the Berkeley, California, area, older students teach portion of a mathematics course to younger ones. The aim of the project is to improve the interest and achievement of disadvantaged seventh-grade students in

mathematics by letting them learn from specially trained ninth grade students who also are disadvantaged. By having their mathematics taught by an interested and knowledgeable near peer with whom they can identify, the seventh graders are expected to be much better motivated than they typically are when taught by an adult.

At the beginning of the school year, volunteers are recruited from among ninth grade algebra students in each of the 3 participating junior high schools. These students enroll in an additional course called Peer Teaching which is taught by a mathematics specialist and emphasizes both mathematics and teaching methods. Within the first 3 weeks, 8 of the volunteers are selected for an additional 3 or 4 weeks of more intensive training. Then, these students gradually are permitted to present lessons to the seventh graders during their regularly scheduled mathematics periods. As soon as they are fully capable, the students serving as teachers assume complete responsibility for the class on 2 days each week.

The regular teacher continues to instruct the class the other 3 days, and is present as an observer when the ninth graders take charge. Both the peer teachers and the regular teachers base their instruction on the same curriculum, and both organize their instruction around the same, fairly conventional teaching methods. Leon Henkin, the director of this project, has not yet published his findings. However, in the 2 years since the pilot program was introduced, there have been no complaints and considerable enthusiasm has been expressed by the participating seventh- and ninth-grade students. Some teachers were at first reluctant to accept the program, but they all are thoroughly satisfied after experiencing it in their classrooms.

Several other examples, including a Paducah, Kentucky program of "mini-courses" described in the next chapter, indicate that students can assume formal teaching roles. As a learning experience, classroom teaching probably has a different impact than a tutoring assignment, and empirical results may demonstrate this when they become available. It seems clear, however, that calling upon students to do what a teacher ought to be able to do better is not as likely to be as educationally rewarding as encouraging students to interact with each other on a one-to-one basis.

CHAPTER 5. REPRESENTATIVE APPLICATIONS

Practitioners interested in using peer tutoring in their own classrooms frequently have little access to detailed information on how typical programs began and operate elsewhere. Here, then, are descriptions of some representative programs together with a glimpse at the role of peer tutoring in today's rural schools. The three specific examples were chosen because they tend to represent the mainstream of current approaches to peer tutoring. All three accent cross-age pairings, where older students help younger ones; all are built around the voluntary participation of teachers, tutors and learners; and all three give at least some attention to both social and cognitive outcomes. They differ in many specific ways, however, reflecting the different needs and circumstances of each setting. This is particularly true for the one-room school example where peer tutoring serves some very specific needs.

Madison, Wisconsin

Peer tutoring is growing rapidly in and around Madison. A sizable number of schools in the area have developed programs, each adapted to the particular requirements of the school and its students. A major stimulus for these efforts has been Herbert Klausmeier's "Individually Guided Motivation" program developed at the Wisconsin Research and Development Center for Cognitive Learning. I-G-M is a series of procedures designed to encourage children to like learning and to learn better. Many schools near Madison have adopted one or more parts of the program, and most teachers in the area are at least familiar with it.

One of I-G-M's four principal techniques aims at improving the motivation and achievement of young learners through individual tutoring sessions with older children. Any one session may be directed at providing remedial assistance for regular classroom work, developing new skills which require considerable practice, or encouraging independent study activities. Although formally organized tutorial methods initially were recommended, a number of schools chose to use less formal arrangements to reduce record keeping and detailed planning. Informal tutoring focuses on the learner's immediate needs as determined on a day-to-day basis by his teacher.

An informal cross-age tutoring program similar to the one recommended by I-G-M is now in its second year at the Sherman Elementary School in a modest income section of Madison. The learners in this program are first graders and the tutors are eighth graders at the Sherman Middle School. The two schools share a single building and some of their facilities with each other. When the tutoring program was initially announced, a large proportion of the eighth grade class volunteered to participate, particularly the girls. From the group, 33 tutors were chosen to match the number of helpers requested by the first-grade teachers. The selection process gave priority to students who had histories of misbehavior in school.

Early in the year the tutor group received 10 hours of concentrated training to prepare them as tutors through both group discussion and role-play methods. Each was then assigned, on the basis of personality characteristics, to individual first graders who, it was felt, needed help in reading by their classroom teacher. Tutoring sessions were scheduled on 3 days per week during a period when the older children normally chose

either an elective subject, such as band, or study hall. Each tutoring session was planned for 20 minutes, leaving about 30 minutes for the tutor to prepare for the next session. An additional hour each week was used for a continuing program of inservice training for the tutors who met as a group with participating teachers. The tutors received grades for their participation as they would have for any other elective.

During the first year, the tutors used Harrison's Beginning Reading Program to provide remedial reading help. However, the tutors and tutees found these materials to be quite boring, and motivation fell sharply during the second semester. Three tutors had to be dropped from the program because of their hostile attitudes toward the younger children or as a result of poor attendance. Space, on the other hand, was not generally a problem. Only some of the sessions were scheduled at the same time, and the tutoring pairs were allowed to work on mats in the halls, in the school lunchroom when it was available, or at the rear of the regular classroom.

No systematic measures were administered to quantitatively assess the first year of the program. Receiving teachers observed gains for some children, particularly those chosen because it was felt they would improve with added practice and special help. The director of the program felt that the first year of the program had not met all of the school's expectations, however. The most serious problems stemmed from the use of standardized tutoring materials, the selection of children with behavior problems as tutors, and the sheer number of eighth graders participating in the initial program. She estimated that the administration of the program, including coordination with teachers, training for the tutors, and

monitoring the tutorial sessions by personal observation, required at least 2 hours of her time each day. This time had to be set aside from her regular duties as the Middle School guidance counselor.

A companion tutoring program is now operating in the Sherman Middle and Elementary Schools along with the first. Volunteering sixth, seventh and eighth graders spend 2 hours per week in an elementary classroom where they assist the receiving teachers. This program is not for credit, and the 80 or so participants receive only minimal preservice training and no weekly inservice training. Some are assigned, as the need arises, to tutor a child, but this is not a permanent assignment and the tutor may work with several different children for short periods. Other volunteers primarily grade papers and do other tasks for the teacher without having much contact with the younger pupils.

There has been no systematic effort to evaluate either program at Sherman or to compare the two. The Middle School students generally prefer the program with more training, more weekly support, and more opportunity to work with a single child over a long period. Students in the more informal program tend to feel they work for the teacher they are assigned to rather than with her. Both programs provide tutors with the opportunity to assume responsibility, however, and this alone may be a positive contribution to their growth and self-confidence. The learners almost uniformly feel the added attention is "really great." When asked about her experience the year before with a tutor, one second grader said her main wish was to see her former tutor again to show her how much progress she had made.

The program coordinator had several suggestions for those interested in planning their own peer tutoring programs. The most important was to start with a very small program that involves no more than a dozen tutors and just a few receiving teachers. In a small program, initial problems are more easily worked out without the pressure of too much happening all at once. She also felt it would be a good idea to begin the first program in the middle of the school year to allow time for more thorough preparation. Training also is very important because the tutors need help in developing their instructional and interpersonal skills to an effective level, and adequate supervision is needed to insure that tutoring sessions are genuinely productive.

Paducah, Kentucky

Jetton Junior High School is now in its third year of a peer tutoring program. Modeled after the Lippitts' Cross-Age Helping Program, and using tutor training materials adapted from those developed by the Lippitts' at the University of Michigan, this effort is directed largely at providing meaningful, interpersonal experiences for the tutors. The program is voluntary. Not all of the students at Jetton are interested in participating in the program, which replaces their physical education classes or study hall periods 2 or 3 times a week, and not all of the teachers in the cooperating elementary schools are interested in having tutors in their classrooms. The program has grown each year, however, and presently involves 130 tutors, a fifth of Jetton's total enrollment.

During the first year of the program, 70 of the better ninth graders were invited to participate. The group received 10 hours of training spread over 2 weeks before being assigned to an elementary school class-

room. There, the receiving teacher took charge of defining their role and responsibilities according to that class's needs. Some assigned the tutors more or less permanently to 1 or 2 slow-learning children; a few asked them mainly to grade papers or set out materials; most, however, were asked to take an active role in the classroom. The tutors worked, as needed, by leading practice activities and offering remedial aid to individuals or small groups of pupils.

The program was so successful in its first year that participation has since been open to all eighth- and ninth-grade students, including many with behavior problems or academic difficulty. About three-fourths of those eligible volunteer for the program each year, but not all can participate. The program has been expanded to 4 elementary schools, including one parochial school, but there are still more tutors available than requests from lower-grade teachers. School buses make hourly runs to the elementary schools to deliver and pick up the tutors, who are individually responsible for leaving and returning on time.

Only 25 of the classroom teachers at the cooperating elementary schools have requested tutors for their rooms. According to the guidance counselor who has been coordinating the tutoring program at Jetton, reasons for rejecting the program vary. Some teachers feel that too much planning and preparation is necessary before each tutoring period to make the sessions worthwhile. Others would rather handle remedial work and individual assistance themselves where their own professional approach may be what is needed. Still others feel quite reluctant to have outsiders in the classroom who might relate their observations to other school staff and, in a sense, "grade" the teacher's classroom performance.

Emphasis in tutor training sessions, both those at the beginning of the program and in the group's monthly "rap" meetings, is directed at improving the competence of the tutors and their awareness of the needs of others. With only a few exceptions, the volunteer tutors are very highly motivated to do a good job. Many show suprising insight on the basis of their own experiences and self-perceptions. For example, they recognize that younger children experiencing learning difficulties can feel "put down" by adults and that these pupils need help without undue criticism. The tutors see their own needs for increased self-confidence reflected in the way their learners behave toward them, and see growth in themselves as they learn to deal with a younger child's problems.

As in most cross-age peer tutoring programs, the problem of pairing children turns out to be far less signficant at Jetton than the problem of pairing tutors and receiving teachers. The school serves a racially and economically mixed area, but neither of these factors seems to influence the relationship between the tutor and tutee. Nor does the sex, ability level, or previous deportment of the tutor seem to matter. In fact, many of the best tutors are among those who have had problems in school themselves, and this includes an occasional tutor with a juvenile delinquency record. Younger children are eager to work with the tutors and respond well to the added attention. The receiving teachers are not always as enthusiastic, however, and some fail to give the tutors the support and direction they need to be successful. Tutors assigned to these teachers have to be among the more capable and self-sufficient volunteers if their motivation is to be maintained.

A typical elementary school teacher may get help from 2 to 20 tutors. Not all of the tutors come on the same days or at the same time, but all are scheduled during classroom periods devoted to small group instruction or individual activities. This arrangement facilitates constructive assignments, such as listening to several children read in turn or helping a slow learner with an arithmetic exercise, but it provides little opportunity for the receiving teacher to fully explain what ought to be done or to get feedback on what occurred in the 30- to 40-minute session. Few teachers have the time to think through these assignments thoroughly, lay out appropriate materials, or review tutor records. Most seem to prefer to keep the arrangement informal, although one teacher discovered she could get around the communication problem by using a convenient moment to tell the learners what was to be done when the class tutors arrived.

Many of the minor problems faced in the early days of the Jetton program have been resolved. The use of school buses instead of public transportation has reduced the number of tutors returning late from their assignments, although some get so preoccupied in the sessions that they miss the returning bus. All tutors have an attendance card punched by the bus driver so that an accurate record of attendance can be kept. Tutors who must skip a session because of illness or another reason are now expected to telephone the elementary school themselves instead of expecting the coordinator to relay messages for them. Lack of discipline among the tutors during the sessions has never been a problem because most would be extremely embarrassed to be dropped from the program.

Because of its success at Jetton, peer tutoring has spread to Paducah's other junior high school, Brazelton, and has been more closely integrated

with a similar program involving some 70 tutors at the senior high school. Another spinoff is the series of "minicourses" developed and presented by ninth graders to interested fifth graders. Each of these courses lasts 5 to 6 weeks, with 2-hour sessions scheduled on Friday afternoons. The content is based on the special skills a particular tutor might have, such as cycling, needlecrafts, camping, or basketball. Volunteer teachers supervise the minicourses, although the lesson plans and conduct of the classes are left to the ninth-grade student.

A study of the effectiveness of the combined Jetton and Brazelton Junior High School programs involving 320 tutors during the 1973-74 school year was conducted by the Paducah Board of Education. During the year, the tutors gained a half month less than expected in reading skill but a full 4 months more than expected in mathematics. Only those tutees who were in grades 3, 4, and 5 and who received individual assistance for much of the school year were assessed as learners. These students averaged about as expected in reading gains, but gained 2 months more than normally would be expected in mathematics. No acceptable measures of the social gains of the participants, which really was the principal focus of the program, were available to test these outcomes quantitatively.

The coordinator and her associates had a number of suggestions for those interested in peer tutoring for their own schools. The first was to carefully select the aim of the program to meet a school's own particular needs. At Jetton, peer tutoring is regarded as a way of actively involving students in a constructive experience, particularly those students who do not have special talents in music, sports or other areas. Copying a program in use elsewhere would not as capably have met this need.

The second is to localize tutor training through the use of familiar examples and the actual experiences of previous participants in the program. Making the training more relevant helps make it more effective. And the third is to carefully orient receiving teachers to the program so they will know what to expect and how to prepare for it. Their relationships with the tutors can mean the success or failure of the program.

Pocoima, California

One of the most extensive peer tutoring programs in this country has been operating in the Pocoima Elementary School since 1968. Begun as a research study, the Tutorial Community Project attempts to involve all students, either as tutors or learners, on a continuing basis. Actually, the project includes several kinds of peer tutoring operating at the same time. Participation is voluntary, and although virtually all students in cooperating classes join in, some teachers do not include their classes in the program. Further, since what is done is determined by the individual classroom teacher, some children participate in parts of the program but not in others.

One aspect of the tutoring program is a cooperative effort with the nearby Maclay Junior High School. Approximately 50 ninth graders are allowed to enroll in a special English course to permit them to serve as tutors in the elementary school 3 days a week. Both very gifted students and others who are substantially below grade level in reading are recruited for the course. To be eligible, a student must have enrolled as a tutor in the previous summer session. In the summer program, which is taken for credit, the tutors spend 2 hours each day at the elementary school providing remedial assistance to elementary students who are below grade level.

During the regular program, the tutors spend nearly an hour a day at the elementary school, 3 days a week, working with first- and second-grade children. The remaining 2 days are spent in their own classroom where the entire group works through tutoring problems using discussions and role-play sessions and reviews the results of their English assignments. The ninth-grade students are expected to complete a normal course load in English as homework. In addition, the entire class meets for about 2 hours one evening almost each week at the home of one of the students. Keeping up with this heavy schedule in part depends on the more gifted students helping both the slow readers and each other on their regular classwork.

At the beginning of the year, the tutors tour the elementary school and are introduced, in a social setting, to those younger children who need the most help. Pairing is usually left to the tutors and tutees themselves. The members of each pair are encouraged to get acquainted with each other in the first few sessions rather than initiate tutoring immediately. They talk, play games, and make each other name tags. The tutoring is conducted according to directions provided by the receiving teacher. Although the focus is on remedial reading, systematic instruction is limited to only a part of each tutoring session to maintain the learner's interest. The rest of the time is spent on games, conversation, or projects. Tutors generally work with the same one or two learners throughout the year.

A second tutoring program focuses on regular classwork rather than remedial problems. Upper-grade students in the elementary school are paired with students in a lower grade for up to 5 periods a week. For

example, a fifth-grade class may pair up with a first-grade class, or a third-grade class may work with kindergarten children. Arrangements for these sessions and the tasks to be carried out in the sessions are determined by the two teachers. One pattern, for example, is to split the two groups with half the students in each class going to the other's classroom. This provides adequate space for all the children and permits the teachers to share responsibility for supervising the sessions. The noise level is high, but tolerable.

In this segment of the tutoring program, pairing is again largely and successfully left to the children themselves. Genuine helping relationships are encouraged, mainly through discussions in the upper-grade class and in the teacher-led training program which preceeds the start of each year's tutorial sessions. Problems such as uneven numbers of children in the two classes, losses of enthusiasm, and the effects of absences on partners, are dealt with by the group. The tutoring and accompanying discussion sessions represent high points in the participants' school day. One early notion for this tutoring arrangement was to locate paired classes in connecting rooms so that the students could freely interact with each other at any convenient time. This idea has been tested in another school, but not at Pocoima.

The third aspect of the tutoring program, less formal than the others, consists of in-class tutoring with classmates helping each other. As needed, the class may be divided into pairs or small groups with the more advanced children helping those who are having difficulty. Careful selection of the content to be covered makes it possible for nearly all students to be tutors on some occasions. As in the other phases of the

program, in-class tutoring emphasizes the development of helping relationships rather than instructional drills. Praise, understanding, and cooperation are stressed as tutoring techniques.

In addition to some specific studies of various aspects of the tutorial program, records have been maintained on the reading skills of all students since the beginning of the Tutorial Community Project. Overall, there has not been much improvement in reading at the upper-primary grades that can be attributed to the program. At the lower grades, however, both the immediate and the cumulative effects of tutorial assistance have been pronounced. Below are the year-to-year median percentile scores for grades 1, 2, and 3. The program began with first graders in the 1969-70 school year, expanded to the second grade the following year, and was made school wide in the 1971-72 school year.

	1969-70	1970-71	1971-72	1972-73	1973-74
1st grade	23	34	43	60	60
2nd grade	5	19	28	31	40
3rd grade	5	5	20	44	32

The coordinator of the program at Pocoima feels that administrative support is essential not only to initiate a program but also to keep it going. Scheduling, training, and working out problems requires an enormous amount of time and energy, particularly in a school as large as Pocoima with its nearly 1500 students. The success of a program alone is not sufficient to keep it operating year after year.

The coordinator and teachers working with the program at Pocoima believe peer tutoring can make a substantial contribution to education but that it is not without its problems. Good planning and at least a few

highly enthusiastic staff members are essential. Programs should start small, they think, and address only a few core aims at the beginning. Because student motivation is a key consideration, the activities in the tutoring sessions should be varied and permit creativity. Participation in the tutoring program should be voluntary. It should be seen as fun rather than as another school chore. Scheduling an occasional social activity in place of a tutoring session and permitting the class to take a few weeks off from the program now and then keep interest high.

A number of problems have been faced over the life of the program, including two changes of principals and the introduction of a variety of other new programs. Interestingly, however, most of the problems reflect difficulties with staff rather than students. Many teachers feel that the program requires an excessive amount of their own time for the results obtained, and they are unwilling to contribute as much energy to coordination, preparation, and student support as the program requires. Many problems that could occur simply never happen. For example, student discipline is a problem only in classes where it existed before, and language and racial barriers are almost nonexistent in this ethnically mixed school.

Cuming County, Nebraska

Peer tutoring is still practiced in many of the thousands of one-room, rural schools that have survived consolidation throughout the country. Unlike their urban counterparts, typical rural schools may combine as many as 8 grades and a kindergarten in a single classroom. As few as half a dozen children may make up the entire student body. These children and their teacher work, learn, and play together daily with surprising

smoothness. None of this would be possible, of course, were it not for the cooperation of everyone in creating an effective learning environment.

Those unfamiliar with today's rural schools may find an introduction to them helpful in understanding the role played by peer tutoring. A typical rural school in eastern Nebraska may enroll 12 to 15 pupils scattered over 6 to 8 grades. Although some activities, such as music or a special project, may be presented to the group as a whole, most subjects are taught to but one grade level at a time. Those few students in that grade sit at the front of the room with the teacher, while the others work on reading assignments, complete exercise materials, or prepare for an instructional session. Noise is no more evident than in a regular classroom during a group reading period, and most children stay busy.

Because each formal lesson is only 10 to 15 minutes long, most of each child's day is spent on individual classwork with textbooks, workbooks, and self-study materials. Students generally are diligent in their independent activity, but problems and questions do occur. Some teachers encourage the children with problems to wait until the interval between lessons; others seem to be able to answer questions while a lesson is in progress. However, many rural teachers encourage their pupils to seek help from peers and older children.

Responding to momentary needs is not the only way peer tutoring is used in rural schools. Many teachers call upon older children to supervise a lower-grade group's activities, listen to a younger child read, or work with another child on a difficult assignment. Older children frequently discuss a lesson, practice for a test, or review an assignment together. Even the younger children rapidly discover that working together

can be fun. Two students often will pair off to practice spelling or read flash cards when both have finished their regular assignments.

In many one-room schools, peer tutoring is viewed as standard practice rather than as an experimental innovation. Children helping each other is so thoroughly integrated into the instructional process, in fact, that it is futile to try to isolate the particular contributions made by peer tutoring in this setting. Nevertheless, the high level of spontaneous peer interaction that occurs demonstrates that the overall instructional climate typical of a one-room school may be a major influence on how well children can learn to work together.

CHAPTER 6. DEVELOPING A PROGRAM

Programs such as those in Madison, Paducah, or Pocoima do not materialize spontaneously. They are successful because of careful planning, extensive preparation, and resourceful action on the part of classroom professionals and other members of the school staff. New programs need not begin from scratch, however. There is a growing body of information and ideas which can diminish both problems and disappointments. This chapter is not meant to be a set of fixed rules; rather, it provides suggestions for avoiding pitfalls and getting the most out of a new program of peer tutoring.

Chart of Program Features

As suggested by the range of studies already described, successful programs can differ from each other in many ways. Several of the most important of these differences are summarized in the chart on the following 2 pages for 13 of the more representative and better documented projects presented earlier. Where known, the details of these projects are given for each of the 10 "components of successful programs" identified in Chapter 4. In addition, the primary focus of the project is specified and the most comprehensive reference for each program is cited.

Although the combination of characteristics associated with each project distinguishes it from the others, it also is evident that there is no one way to design a successful peer tutoring program. The preferences of participating teachers, the needs of the students, and the existing school program all influence the configuration of any peer tutoring project. Furthermore, many projects undergo substantial changes as a result of

Chart of Program Features

Program	Focus	Learners	Tutors	Content	Supervision
Youth Tutoring Youth	cognitive for tutor	underprivileged 4th & 5th grade	underachieving high school	mainly reading	paraprofessionals
Cross-Age Helping	social development	younger elementary	older elementary	all subjects	receiving teachers
SWRL Program	cognitive for learner	low-achieving kindergarten	5th & 6th grade	reading	receiving teachers
Structured Tutorial	cognitive for learner	all nonreaders	5th & 6th grade	reading	nonteaching staff
Peer-Mediated	cognitive for learner	all grades	same grade as learners	spelling, English	classroom teacher
Fredonia, New York	cognitive and motivational	low-motivated 2nd & 3rd grade	low-motivated 5th & 6th grade	mathematics	paraprofessionals
Los Angeles County	cognitive, all participants	slow-reading elementary	underachieving high school	reading	assigned teacher
Springfield, Mass.	cognitive, all participants	underachieving 3rd grade	underachieving 7th grade	reading	researcher
New Haven, Conn.	cognitive, all participants	slow-reading 1st grade	low-motivated 6th grade	reading	reading teacher
Los Angeles City	cognitive, all participants	lower elementary	upper elementary	reading	receiving teacher
Madison, Wisconsin	social and cognitive	1st grade	8th grade	all subjects	guidance counselor
Paducah, Kentucky	social	slow-learning elementary	8th & 9th grade	all subjects	guidance counselor
Pocoima, California	social and cognitive	lower elementary	upper elementary	mainly reading	program supervisor

Chart of Program Features (Continued)

Training	Schedule	Pairing	Particip.	Materials	Procedures	Reference
not stressed	1 hour, 2-4 times per week	by supervisor	voluntary	informal by tutor	informal	Gartner, Kohler, & Conway, 1971
preservice & inservice	30 min., 3-4 times per week	by receiving teacher	voluntary	regular classroom	friendly, helping	Lippitt, Lippitt, & Eiseman, 1971
3 or 4 hours	20 min., 3 times per week	by receiving teacher	learners designated	SWRL Reading	structured	Niedermeyer & Ellis, 1970
3 or 4 hours	half hour each day	by supervisor	learners designated	special exercises	structured	Harrison, 1972
1 class period	1 period daily	random by teacher	all students in class	special exercises	structured	Rosenbaum, 1973
one session	1 hour, 2 times per week	by participants	voluntary	informal by tutor	partly structured	Mohan, 1972
one week preservice	2 hours daily (summer)	?	learners designated	informal by tutor	teacher suggested	Landrum & Martin, 1970
preservice & inservice	half hour 2 times per week	?	participants designated	informal & classroom	partly structured	Erickson & Cromack, 1972
preservice & inservice	half hour 2 times per week	?	learners designated	selected by teacher	partly structured	Criscuolo, 1973
5 days preservice	25 min. daily	by reading proficiency	all students	special & classroom	partly structured	Ebersole, 1971
10 hours plus inservice	20 min. 3 times per week	by receiving teacher	learners designated	prepared by tutor	informal	Chapt. 5 & Klausmeier, et al., 1973
10 hours plus inservice	30 min. 2-3 times per week	by receiving teacher	learners designated	regular classroom & others	informal	Chapt. 5 & Dallas, 1974
7 hours plus inservice	1 period daily	by participants	largely voluntary	selected by teachers	informal	Chapt. 5 & Melaragno, 1972

experience with them. In Madison, for example, highly structured materials were replaced by lessons prepared by the tutors and in Los Angeles City, in-class tutoring is used along with cross-age tutoring.

Teachers who want to explore peer tutoring for their students should be cautious about indiscriminately adopting any one approach simply because it was successful elsewhere. Many program designers agree that it is easier to build peer tutoring around existing materials, schedules, and curriculum plans than it is to revise everything to fit the constraints of a specific approach. They suggest a careful consideration of all the important elements that go into the design of a peer tutoring program before deciding what combination is most likely to be successful.

Choosing Objectives

One almost universal recommendation made by those who have experience with peer tutoring is that the particular aims of each program be made explicit and related to recognized needs. Peer tutoring is not for everyone. Many teachers feel quite content with their present programs and others are already too involved in other new activities to take on additional responsibilities. Even those who might welcome changes in their current classroom routines, however, sometimes need to be convinced that peer tutoring will serve a useful purpose. For this reason, a program should be designed to meet outstanding needs that are considered important enough to deserve attention.

An early list of some needs which could be met by a peer tutoring program was prepared by Thelen (1969). First, he felt that children helping each other would go a long way toward meeting individual learning needs. Second, he suggested that the attention given and respect received

when two students work together could be used to combat ethnic prejudices. Third, he noted that children helping each other ultimately may be more beneficial to society than children competing with each other. And fourth, he observed that peer tutoring could be used creatively to encourage a spirit of change in the educational environment.

Many other goals have been proposed. For example, peer tutoring can be a way of helping children who would profit from individual attention. It can provide learning opportunities where interaction with a teacher is limited. It can be a constructive solution to the problem of high- and low-ability children being grouped together. It can provide many children with otherwise unobtainable opportunities for responsibility and recognition. It can be a workable method of correcting a hostile and uncommunicative school climate. Finally, it can be introduced as a productive educational experience in its own right in schools where it is recognized that students need greater contact with each other.

Perhaps the most important decisions to be made when planning a program are whether it should be directed at the tutors or the learners, and whether the real need is for academic or social gains. Because what is measured to establish the success of a program also reflects the priorities of program planners, studies of peer tutoring generally do not assess all of these outcomes. Nevertheless, some generalizations are possible.

Programs based on highly structured materials, such as those developed by Niedermeyer and Rosenbaum, have been designed specifically to help the learners. The Youth Tutoring Youth and other programs which benefit the tutors' skills have much less structure; they force the tutors to understand the content themselves before teaching it, and this practice is

valuable particularly for tutors who are below grade level. Because programs aimed at social outcomes, including the Lippitts' Cross-Age Helping Program, depend on flexible interactions between the tutor and learner, the sessions are not confined to academic difficulties. Although this kind of program is expected to enhance the learning motivation of the participants, achievement effects will not be observed immediately. Thus, the kind of outcome wanted determines the materials to be used, the kind of training given to the tutors, and often the selection of participants.

Even programs directed toward improved achievement differ widely depending on the specific needs of the students. The instructional goals of peer tutoring sessions very often emphasize reading skills because many schools feel additional instruction is needed, because individualization is important, and because a listener is required for practice. Depending on the grade level of the learners and the curriculum in use at that school, the tutors are expected to work on word-attack skills, reading comprehension, or remedial practice to enhance fluency. In other schools, mathematics, language arts, social studies, or other content areas are chosen for peer tutoring programs, often because improved reading is the goal of some other activity that already is operating.

Tempting as it might be to select a number of goals all at once, experience has shown that programs which attempt too much often accomplish very little. Authorities tend to agree that a peer tutoring plan should begin with but one or two compatible objectives addressed to well-recognized problems. Some examples might be to give first graders increased individual reading practice at their own ability level, permit fourth graders who are performing below grade level in arithmetic to review basic skills by tutoring

second graders, or provide eighth graders with opportunities to develop their own self-esteem through tutoring. More objectives can be added later.

Unless it is a component of a totally new curriculum, a tutoring program originally should be planned as a complement to the teacher's role rather than as a replacement for it. The teacher should know that every lesson was presented competently to every learner at least once. The tutoring sessions then can be directed at providing practice, remedying misunderstandings, or repeating lessons when it is apparent that learning has not occurred.

Some programs have been designed which make tutoring part of the regular instructional routine for all children, while others emphasize only remedial instruction for those few children in a class who most need help. Which approach is chosen obviously depends in part on the number of tutors. It may be more practical to involve everyone if older children tutor younger children in the same school than if the tutors are recruited from a cooperating junior or senior high school. It is perhaps surprising to those who have not seen tutoring programs in action that most younger children want to be tutored. A child intentionally doing poor work to be able to join the select few in his class who are getting remedial attention has been a common experience.

Content appropriate for tutoring should not include material that is unnecessarily prevocative or challenging. Unless the age difference between tutors and learners is considerable, a tutor cannot be expected to have the judgment or maturity needed to evaluate conclusions about history or the quality of themes. Tutors can monitor reading, review arithmetic answers, correct grammar, and help with science projects. They also can

usefully act as a sounding board for a learner's compositions by identifying sections that are confusing or incomplete. At least at the beginning, tutoring should be limited to those kinds of assignments where there is likely to be full agreement between the teacher and tutor as to what represents a correct answer.

Content should be selected with both tutors and learners in mind. Restricting tutoring to unimportant, low priority skills will greatly reduce the motivation of the learners and probably the success of the program. The enthusiasm of the tutors similarly can be destroyed by limiting their role to such activities as serving as scribe when first graders make up stories. Given a chance, most tutors genuinely want to help another child learn something signficant, and most learners will appreciate added individual attention in those areas they consider meaningful and important. This is one reason, at least, why so many successful programs have concentrated on reading and other basic skills.

Designing Activities

Once the objectives of the program have been agreed upon, the next step is to design the learning activities that will take place during the tutorial sessions. Most experts agree that a one-to-one arrangement is best, at least for cross-age tutoring, and that the pairing of tutors and learners should not be changed arbitrarily over the school term or year. A good relationship appears to contribute significantly to the success of peer tutoring, and this mutual respect, trust, and understanding cannot be achieved in just an hour or two. The kind of activities wanted, then, are those which build on, and contribute to, the relationship between children, and take advantage of this relationship to make individualized instruction a reality.

To the extent possible, the plan for the sessions should be flexible, with the tutor and the learner taking an active role in choosing activities. Tutoring should be constructive, but it also should be fun. This is one time during the school day when each child's unique interests can be incorporated into the instructional process. One way to encourage individuality, as will be discussed later, is to provide a range of alternative instructional materials all leading to the same goal. Rather than rereading a story already presented in the classroom, a tutor could help the younger child read a story from a book chosen because of its interesting content. Instead of repeating the problems in an arithmetic workbook, the tutor could design new problems built around some theme the learner found enjoyable.

Variety during the sessions usually is recommended. Few teachers would attempt to keep young learners at the same task for very long, and tutors are not likely to be any more successful. Dividing the sessions into units, each with a different activity, stimulates attention and increases the holding power of the lessons. Rosner (1972), for example, includes 4 different activities each 40-minute session in his program in Los Angeles. First, the learner reads aloud to the tutor who, in turn, asks comprehension questions. Then, there is a brief phonics lesson from a workbook. Next, there is vocabulary drill using a small chalkboard. And, finally, the tutor reads to the learner during a story time designed for enrichment.

All activities should be thought through carefully and then tested on a few pairs of children to make sure the tutors and learners can do what is expected of them. Detailed directions for activities often help. For

example, Dreyer (1971) suggests that tutors receive the following step-by-step instructions for conducting oral reading practice:

1. If the child has a lot of difficulty with the material (missing more than 1 out of 10 words) use echo reading:
   a. The tutor reads the material aloud first and is followed by the pupil.
   b. The pupil repeats aloud after each word, phrase, or sentence.
   c. Following this procedure, have the child read the word, phrase, or sentence on his own.
2. Keep track of the errors each child makes. Usually these will consist of words he mispronounces. For example, then for when. Write down the mispronounced word and the word the child gives for it. Put these words on cards for practice.
3. When a child comes to a word he cannot pronounce:
   a. You will frequently just tell him the word.
   b. You may call his attention to the beginning sound - if he knows sounds at the beginning of words.
   c. Give him the meaning of the word so he may make an attempt to pronounce it.
   d. Have him check his attempt by asking himself if this word makes sense in the sentence.
4. Ask the child to tell you what happened in the story. Be sure he gets things in order.
5. Write down words that are difficult for the child. Put them in phrases as found in the story. Give practice following the suggestions and procedures for sight words given above.

Scheduling is another important consideration. For very practical reasons, most programs schedule cross-age tutoring sessions around the tutor's regular instructional periods. This usually provides a half hour or so for the children to work together, with enough time left over for the tutors to meet briefly with the teachers, plan a future lesson, or keep a log of the sessions up to date, and still get back to their classes

when they should. Less than 15 or 20 minutes per session appears to be too brief a period for the children to get to know each other. But sessions longer than 40 minutes are likely to get out of hand. Most tutoring programs plan on the children spending 20 or 30 minutes with each other at a time.

Most programs also plan on the children meeting together at least 3 times a week. If the sessions occur less often, too much time usually is spent on catching up on the learner's progress since the last session and in deciding what kind of practice is needed. The tutors also seem to loose momentum when the sessions are less frequent because their contribution becomes less evident. Too frequent sessions, however, can become burdensome, and many schools plan periodic breaks in their tutoring schedules for this reason. They set aside several weeks here and there during the school year when the older children are assigned projects which replace the tutoring sessions.

Finding sufficient space can be a major problem. Programs intended to serve a remedial function usually involve only a few students, and space at the back of the classroom can be used or the children can sit on mats in the hallways. These arrangements are not adequate, on the other hand, for programs that involve most or all of the class. Occasionally, as in Pocoima, half of each class changes rooms. In Madison, it was possible to use the school lunchroom to provide adequate space. In Paducah, the tutors arrive on staggered schedules so that only a few tutors are in the learners' room at one time throughout the school day. In other programs, half of the learners are tutored at the very beginning of the school day and the rest at the very end; tutoring occurs over recess or lunch periods so that all

but the learners can be out of the room; or libraries, gyms and other multipurpose spaces are used.

In-class programs, of course, do not encounter the same scheduling or space problems as cross-grade programs. Perhaps for this reason, the sessions tend to be shorter, and sometimes there will be more than one session each day. Because these programs tend to emphasize practice rather than tutorial assistance, the activities planned for each session also tend to be more closely tied to accompanying teacher-presented lessons. Giving the children an opportunity to create some of the materials they will use may itself be a valuable learning experience, particularly if they are encouraged to consider their partner's individual interests and learning needs.

Preparing Materials

One of the most important decisions in the design of a peer tutoring program is whether the materials will be purchased or developed locally as part of the program. Both of these approaches have been tried successfully. The choice made generally reflects the outcomes expected from the program and the funds or other resources made available to it. Most program designers create their own materials to fit their own aims. They have found it is easier to build a tutoring program around existing classroom methods and materials than to revise the curriculum so that it accommodates tutoring.

Carefully organized materials, on the other hand, are an important feature of many structured programs, especially those intended for beginners just learning to read. The content and sequence of each lesson must be precisely defined and the exact steps the tutor should follow have to

be described. How this approach is reflected in the resulting materials is illustrated by a brief example from the SWRL Beginning Reading Program (Niedermeyer, 1970). In the actual materials, the instructions to be read aloud by the tutor (and shown here in parentheses) are printed sideways at the edge of page so they can be seen easily by the tutor but not by the learner.

Practice Exercise 1A: Unit 6

(Row 1: Point to the word fun.)	fun	sun	feet
(Row 2: Put your finger under word run.)	sun	ran	run
(Row 3: Read this word.)		sun	
(Row 4: Read this word.)		run	

Because materials suitable for highly structured tutoring take considerable skill and time to develop, and since several alternative series already have been packaged for sale, teachers who want a program of this kind should examine what is commercially available before embarking on a developmental effort. As a word of caution, however, many who have used these highly structured programs strongly suggest trying them out on a small scale before adopting them as the basis for a comprehensive tutoring program.

Programs focused primarily on the tutor, and particularly those aimed at the older child's personal and social growth, tend to have rather loose structures and material requirements. The widely used manual prepared by the Lippitts, for instance, gives little attention to the selection or development of instructional materials for the tutor's use. The major emphasis in this program is on changing attitudes and motivation through

personal interaction. Structured materials would tend to interfere with this process by diverting the attention of the children away from their relationships toward each other. The tutors, instead, are encouraged to use very simple materials, preferably those they create or assemble themselves.

At the Sherman Middle School in Madison, for example, tutors are encouraged to develop exercise materials for use in the tutoring sessions. During their preservice training program, they are assigned the task of creating worksheets to meet different needs. Suggestions to help the tutors complete one of these assignments are reproduced in the following illustration.

Ideas for Tutor-Made Materials

1. Draw a picture above the word to be learned. The learner can color this in when he or she can say the word.

   log dog box top

2. Have the learner match words and pictures you cut out of a magazine.

log	(picture of box)
top	(picture of log)
box	(picture of top)
dog	(picture of dog)

3. Have your learner select the right word to fit in a sentence by underlining the word. Since your learner may be just learning to read, you will probably have to read the rest of the sentence aloud, omitting the words he or she should read.

I told you to (dog, stop) doing that.

Don't touch the stove as it is (hot, mop).

The (fog, stop) is so thick, I can't see.

4. Make a short learning game. You will need paper on which to draw your game and markers which you make. Make some flash cards of the numbers 1 and 2. Have a start and finish. One game would be to pick a sound for the learner to rhyme with, og., for example. The learner draws a card to find out how many spaces to move. Each space is marked with a letter the learner must use to form a word, such as l or f. The learner must say log or fog to advance to that space. See if you or the learner can reach the finish first.

Many tutors are able to create imaginative games, puzzles and activities that contribute meaningfully to learning and strongly attract the learner's interest. And, in doing the preparation themselves, the tutors have a chance to utilize their own initiative. Getting the tutors to work with the materials also can be a useful way of improving their own skills, particularly if they are below grade level. For this reason, several programs have made the development of materials designed for specific objectives an organized responsibility of the tutors. Groups of tutors are encouraged to work together to develop games or exercises for use during the tutoring sessions.

In still other programs, the receiving teacher is expected to have some model materials available which are appropriate to the learner's needs. The tutors can present this material as is, or they may be encouraged to adapt it or vary its use. Other schools have arranged teacher workshops

where everyone is asked to contribute the kind of materials they would like to see the tutors use. Not only are most teachers a reservoir of useful suggestions, but getting them involved in the preparation of materials is one way to generate additional enthusiasm for a planned peer tutoring program. Revising the materials after trying them out on some typical learners allows the compilation of a library of good ideas that can be expanded year after year.

Training the Participants

It is almost universally agreed that no program will succeed without a well-planned training program for the tutors. Even the more structured programs seem to work best when the tutors have been carefully instructed (Niedermeyer, 1970). About 10 hours of preservice training for cross-age tutors typically is recommended, along with about an hour a week of continued inservice training to take care of new problems as they come up. The need for tutor training was made particularly clear by Gartner, Kohler and Riessman (1971) who observed that it is unreasonable to assume that children naturally know how to teach. It is their experience that many children in a teaching role will tend to mimic the worst teaching they have experienced as learners by being bossy and overbearing as tutors.

A number of different training plans have been worked out and tested in actual peer tutoring programs. Overall, the preservice training in these plans tends to follow this general approach:

Lesson 1. Orientation to the program; the tutors' responsibilities in terms of extra effort, attendance and deportment; discussion of why students have volunteered for the program and their expectations; presentation on what the program is trying to accomplish.

Lesson 2. Description of the learners; who they are and what kinds of learning problems they may have; how tutors and learners will be paired; introduction to the receiving teachers; discussion of how the younger children will view the tutors and what tutoring experiences would be pleasant and unpleasant for them.

Lesson 3. Meeting the children; how to act in the learner's classroom; where to hold the session; how to introduce yourself to the learner; what to say and do; role-play practice on getting acquainted with the learners and showing interest in them.

Lesson 4. Visit with the learners; a get acquainted session in the learner's classroom preferably organized as an informal, "party" occasion; followed by brief individual meetings between the tutors and several children including the intended tutoring partner.

Lesson 5. Resolving tutor concerns; discussion of visit with the learners and how the tutors feel toward the children; what the tutors have discovered about the children, and what questions they have; role-play practice on establishing rapport with their partner.

Lesson 6. Interaction with partners; another visit to the learner's classroom; getting acquainted with the agreed-upon tutoring partner; inspection of the learner's classroom materials and observation of his or her current performance; making name tags for each other.

Lesson 7. Analysis of the tutoring process; description of typical tutoring activities; inspection of materials to be used; using praise and avoiding criticism; how to deal with the learner's errors; role-play demonstration of tutoring session with a praise-only critique.

Lesson 8. Practice in tutoring; multiple role-play practice on the tutoring process with emphasis on giving praise and withholding criticism, dealing with learner errors, adapting the instruction to the learner, and meeting instructional objectives.

Lesson 9. Coping with problems; how to detect and handle loss of interest; apparent rejection of the tutor by the learner; misbehavior and disturbances and how to deal with them; discussing their school and personal problems with the learners.

Lesson 10. Planning the sessions; how each day's session will be planned; collecting or developing materials; making a log or record of the learner's progress; what to do when absent; how to cooperate with other tutors when help is needed; the role of school personnel.

Each training syllabus is different, of course, depending on the objectives of the program. Programs focused mainly on the learners tend to emphasize learning problems and tutoring techniques, while those stressing the personal growth of the tutor spend more time on the idea of a helping relationship and the feelings the tutors have about themselves. About the only emphasis shared by virtually all approaches to tutor training is the avoidance of criticism and the liberal use of praise. These seem to be features essential to productive tutoring relationships regardless of the orientation of the program.

Role play practice is another ingredient common to most training programs. Good tutoring does involve skill, as suggested by this list of "do's" for the tutor (Klausmeier, et al., 1972):

- Be on time to the tutoring session.
- Be prepared with the materials you will use.
- Sit beside, rather than in front of, the tutee.
- Greet the tutee pleasantly to start the session and talk about something that will be of interest.
- Discuss with the tutee what will be studied or practiced that day.
- Look at the tutee when either of you speaks.
- Ask a question or give an instruction to the tutee.
- Speak slowly and clearly.
- Wait for the tutee to answer each question you ask or to complete each exercise given.
- For each correct and complete answer, tell the tutee that the answer is correct.
- Praise the tutee for trying.
- Correct the tutee's wrong or incomplete answers.
- Set a good example for the tutee by paying attention to the work and indicating that you like the subject matter.
- Be pleasant and try to be helpful throughout the session, especially when the tutee may not seem to learn or understand.
- Near the end of the session, review what was learned during the session and praise the tutee for having worked hard and learned.
- Tell the tutee when and where you will meet for the next session.

A number of manuals have been prepared to assist in the training of tutors, and several of these are identified in the last section of this guidebook. Although many programs begin with training materials that originated elsewhere, most sooner or later develop their own version to meet their own particular needs. Several schools have prepared tape recordings, for example, which present the experiences of their own tutors and learners from past years. These are easier to prepare than written reports and easier to understand for tutors who are slow readers. The use of actual names and references to familiar surroundings make these tapes far more effective than ones prepared elsewhere. And, being requested to make a tape can be a special reward to participants.

Experience has shown that tutor training cannot end with the formal training sessions. Problems frequently occur, and the tutors quickly become dissatisfied and lose interest if these difficulties are not resolved. To help the tutors overcome these problems, many programs hold "rap" sessions, usually weekly, where the tutors can air their grievances and make their feelings known.

Two problems seem to emerge rather frequently during these discussions. First, tutors tend to experience considerable frustration when there is little evidence of learner progress. It is very difficult for them to recognize that learning takes time and that changes in skill level may take weeks or months to become apparent. The second problem concerns the relationship between the tutors and the receiving teachers. Most tutors want more guidance on how to correct their partner's learning problems than the younger child's teacher has time to give. The tutors, however, often see this lack of help as evidence of indifference on the part of the teacher,

toward both them and the learners. They also may have difficulty coping with what they see as undesirable behavior on the part of the receiving teacher. After they have learned to use praise and avoid criticism, they may become intolerant of opposite behaviors in others. Most of these problems can be worked out, however, through discussions led by a patient and sympathetic program coordinator or upper-grade teacher.

Training is perhaps equally important, although often less extensive, when the tutors and learners are from the same classroom. Even in this setting, many children will copy the authoritative, bossy characteristics they see as typical of teachers rather than adopting a warm and helping attitude. Cooperation and mutual assistance are skills that need to be learned, and children are not going to acquire them easily without help. Teachers who use peer tutoring within their own classrooms should be alert to the attitudes the children begin to show toward each other and constructively intervene to encourage understanding and rewarding relationships.

Maintaining Enthusiasm

Even if begun with considerable commitment and evident spirit, peer tutoring programs easily can break down over time. Teachers who welcomed the tutors in their classrooms at the start of the year discover that the added responsibility of setting daily objectives for each participant can become burdensome. Sending teachers start to object when the tutor's obligations to the program begin to interfere with projects and assignments. Tutors, at first dismayed by their own lack of instructional skill, later seek a greater range to their responsibilities. Many learners simply become bored with the routine of the program as many of their immediate needs for encouragement and assistance are met.

Constant supervision of the program is required if these undesirable outcomes are to be avoided. As the staff at Pocoima observed, the success of a program alone is not enough to keep it going month after month and year after year. In addition to what the program accomplishes, two factors seem to be important if the program is to be a lasting one. First, a program is not likely to survive unless at least one dedicated individual is willing to assume ultimate responsibility for making it work well. And, second, that person must have the time needed to monitor what goes on, resolve day-to-day difficulties, and plan whatever changes are needed to keep the program on track.

Perhaps the best way to combat malaise is to insure that plans have been made for making the tutoring experience rewarding to all participants. Recognition for the tutors' efforts is essential. They must be made aware that teachers appreciate the positive contributions tutoring makes. Any lack of apparent interest by the school staff will make them lose interest. Participating teachers, in turn, have to be able to see constructive changes themselves. A teacher who is more than willing to go along with a program on the basis of its promise sooner or later wants to see more tangible results. And they also want recognition for their efforts in making the program a success. Without an enthusiastic administration, their due praises are likely to go unsung.

Keeping up the interest of the learners depends on frequent observations on how well the learners are responding to their tutors. Whether the session is fun or a chore is rea ly apparent from the way the two children seem to be getting along. Good sessions are reflected in interested, attentive learners and relaxed, happy tutors. Poor sessions

are marked by obvious discomfort and long silences. Almost always, a lack of progress and communication stems from the tutor not having sufficient help and support in knowing what to do and how to do it well. Those are not appropriate occasions to reprimand the tutor. Instead, they are clues that tutor training requires more work, that more suitable materials are needed, or that recognition for the tutor's efforts has to appear more frequently.

A number of techniques have been devised to ensure that the needed recognition occurs regularly. In some programs, including those developed by Bright and his associates in Waco, Texas (1972), peer tutoring is supported by a system of tokens which can be traded for special activities and prizes. In Madison, photographs taken during tutoring sessions at the Sherman School are shown to visitors who have come to see the program in operation and to the parents of tutors and learners who are invited to the school for a "recognition" evening. Periodic social events for the tutors and their learners are part of the program at Pocoima. At the Jetton School in Paducah, tutors receive special certificates and trophies as well as school credits.

Finally, some provision has to be made to permit tutors who are disillusioned with the program to leave it. There seems to be a consensus that cross-age programs have to be voluntary if genuine helping relationships are to be achieved. Withdrawals from a voluntary program can be contagious, however, unless all children are prepared for them and unless any child who wants to leave can withdraw without embarrassment. Letting students participate for a week or so as "junior tutors" toward the end of the year prior to their eligibility for the program may give them

enough experience to decide beforehand whether the program is right for them or not.

Determining Outcomes

Evaluating the success of peer tutoring programs has been a continuing problem. Many of the studies that have been conducted have been too experimental in nature to permit their replication elsewhere or to produce the kinds of comprehensive outcomes that are of real interest to most educators. Other studies have considered the long-range goals of in-school programs but have found it almost impossible to draw confident conclusions as to what was due to the tutoring and what was not. In many reports, the gains attributed to peer tutoring are so large they should be viewed with skepticism. In other, seemingly less successful studies, the program may well have had much more of an effect than was demonstrated quantitatively.

Assessing the contribution of peer tutoring to academic gains is far easier when the objectives of the program have been well defined. Greater than otherwise expected progress in reading skill, for example, can be determined through before and after standardized reading tests providing two assumptions can be met. First, it must be clear that the gains were the result of the tutoring and not some other feature of the program such as the simultaneous introduction of a new reading curriculum or the practice effect of repeated testing. Second, it must be evident that the gains would not have occurred in the absence of any program at all, particularly if the program has a compensatory or remedial emphasis. Low scoring children often obtain that score because of chance, and on a second test they will get a score closer to their truer and higher ability even if nothing at all is done between test administrations.

These assumptions generally cannot be met without demonstrating that an equivalent group of children not exposed to the program do not achieve the same gains. This is quite difficult, however, because equivalence has to be established both in terms of the characteristics of the two groups of children before the program, and in terms of the nature of their experiences during the program. Giving some children an extra half hour of reading practice a day, for example, is likely to produce gains whether the practice was made possible by peer tutoring or by just allowing the child to read individually for an equal amount of time.

For many programs, on the other hand, this kind of analysis is not warranted. If greater than expected gains result from the introduction of a new program which could not have been implemented without using other students as teaching resources, the benefits to the learners can be just as real. How much the tutoring itself contributed makes little difference to the educational gains for the participants. Even when the focus of the program is remedial, there are statistical techniques which make it possible to subtract the gains due solely to chance, gains technically referred to as "regression" effects, so that the added improvement caused by the program can be determined.

Academic gains for the tutors are at least equally difficult to establish. Below grade-level reading skills, poor self-study and organizational skills, and lack of interest in school are all sources of low achievement thought to be correctable by participation in a peer tutoring program. Again, there are two philosophies which lead to different approaches to evaluation. One is to compare gains for the tutors against those of an equivalent group, who also must have volunteered to be tutors

if this was a component of the project. The other is to see if tutoring produces better than expected results for the entire class, participants and nonparticipants alike. The impact of a tutoring program may well be a change in the school climate that potentially benefits everyone.

Before deciding on the measures to be used to determine cognitive gains, careful thought should be given to whether the program has an honest chance to materially affect test results and to whether the performance measured by the test has genuine educational significance. Some widely used standardized achievement tests simply are too global or comprehensive for the scores to be influenced by a limited curricular or instructional change, including peer tutoring. Other tests, including many of those created especially to go along with some tutoring experiment, measure outcomes which are meaningful only to the experimenter and not to the educational community at large. Selecting the right tests requires thorough familiarity with what is available, and professional assistance often will prove very helpful.

Measuring social development is even a greater problem because of the lack of acceptable test instruments which can be used to assess those outcomes numerically. Attitudinal measures sometimes are used, but these tend to command little credibility either among educators or researchers. Descriptive reports and observations more successfully characterize the kinds of personal growth expected from programs aimed at social outcomes, but evaluations based only on these kinds of observations fail to be convincing without supporting data. Better measures are required and will have to be found, particularly since the continued funding of many peer tutoring programs is assured only if they achieve clear-cut, positive results.

One last issue that deserves attention is the position that peer tutoring need not produce measurable cognitive gains or personal growth to be successful. For possibly a large proportion of students, participation in a tutoring program as either learner or tutor may itself be a valuable experience. Not all children have the talent to be in the band, the strength or stamina to be a sports star, or the ability to routinely make the honor roll. Many children come from homes and communities where warmth, understanding, and attentiveness from an older person is sorely lacking. For many children, the school environment is the only available source of social relationships and personal pride. Giving these outcomes a chance to occur may be one of modern education's most important functions even if the benefits accrue to only a few of the children.

Orienting Parents and Colleagues

Keeping everyone fully informed seems to be one of the key characteristics of successful programs. Peer tutoring, like most newly introduced educational techniques, may create a certain amount of uneasiness and concern. There is always the temptation, of course, to create a little mystery for a program to help it acquire a bit of glamour and prestige. Although a certain amount of that is sure to occur, there is no need to encourage it unless one is fully prepared for sniping from the sidelines, an occasional irate parent, or a possible veto from the administration. Openness about what the program does, how it works, and what can be expected from it is preferable.

Before looking at what should be done to introduce a program, consider what not to do. Usually the first mistake is attempting to do too much too quickly. Start small, and suggest enlarging the program only when

you are convinced that all the more important problems have been solved. A second mistake is aiming too high. Be modest, and quote the nearly unbelievable results from some reports only with appropriate skepticism. Doing better than was expected will satisfy everyone; doing less well will please no one. A third mistake is to attract or encourage publicity before a program begins. There will be plenty to talk about if it is successful. Be patient.

How to gain the support of colleagues who are being recruited to participate in a program must be seriously considered. Adequate preparation will help launch the discussion, which should be addressed at deciding what kind of program is wanted rather than at announcing some specific solution. Setting a cooperative tone at this point by encouraging the help and suggestions of others in the design stage may be fundamental to everyone later working together. Knowing what has been done elsewhere, and being honest about possible problems, will add credibility to the idea, as will focusing attention on the recognized needs of your own school as determinants of the aims of the program. Peer tutoring should be introduced to solve problems, not to create new ones.

Even after there is a general decision to proceed, many more meetings will be needed to keep everyone informed of decisions and progress. Care should be taken not to exclude teachers who are unenthusiastic. Their initial lack of interest may stem from legitimate doubts, and they may reverse their position after seeing the results of a trial period of program operation. If you can keep their early decision from appearing final, you may discover some strong support from them later on. Let everyone who wants it have a role in planning the program and preparing materials.

Getting others involved will foster their cooperation even if their classes will not be part of the initial program.

Administrative concerns vary considerably from one setting to the next. Will transportation be required? Who will administer the program? What are the parents likely to say? Does the plan insure that instructional supervision is available at all times from a certified staff member? Will there be any new expenses, clerical requirements, or added administrative burdens? Should the program be sent for approval to the superintendent's office? Will the program be disruptive for nonparticipating children or interfere with other school activities? If the tutors are to miss any of their own instruction, how will it be made up?

At some point, parents also will have to be informed. Practices differ in this respect. Some schools formally request permission from the parents of participating children, either by letter or at a conveniently scheduled orientation meeting. Other schools try to inform the parents, often through the children themselves, but deliberately avoid asking permission. Tutoring in these schools is approached as a normal educational practice which needs no more parental consent than the use of television or film in the classroom. The likelihood that some parents will fail to give their permission to a child who wants to participate is seen as potentially damaging to the very children who may be helped most by the program.

Simple but regular records make it possible to trace back what has happened if objections or disputes arise. All tutors should be required to maintain a log of each session but only essential information should be recorded. In several programs, the tutors have been required to make and

write up detailed observations on each session. This task soon becomes objectionable, and can detract from the real purpose of the program. An effective substitute would be to require some small amount of written work from the learner during each session. This will give the receiving teacher a chance to review the progress being made and will serve as a record of the session at the same time.

Frequently Asked Questions

Not surprisingly, many of those responsible for starting peer tutoring programs have been able to identify a variety of questions that repeatedly are asked. Here are a number of them, together with a consensus of the usual answers:

Should a child's race or sex be considered in how children are paired?

These factors are not generally seen as problems by the children themselves. Boys, and sometimes girls, in the upper elementary grades occasionally resent receiving help from an older child of the opposite sex, and should be allowed to exercise their preferences if possible. Several programs attempt to recruit older children of the same background to help a younger child who is behind, particularly when there is a langauge problem. Other schools pair children on the basis of personality characteristics and put a shy child with another shy child, for example. Perhaps the best solution, and one that works quite well in practice, is to let the children pair up by themselves.

Is it a good idea to keep pairs of tutors and learners the same throughout the school year?

It is generally agreed that pairs should not be changed arbitrarily or unnecessarily. On the other hand, there is no reason why a remedial

program should last the entire year if real progress has been made. A tutor could be assigned to help a child who was behind in fractions or blends, for instance, with the understanding that the relationship would end once the learner's difficulty has been overcome. Changing partners may be a good idea if one or two pairs of children simply are not getting along. A fresh start with another child may be all that is needed to correct the problem.

Is the age difference between the two children a significant factor in the success of a program?

Opinions differ on this point. Some experts, particularly the Lippitts, are convinced that the children must be at least 3 years apart in age so that the older child can serve as a model for the younger one. Others believe children closer in age share a closer understanding of learning problems and are more likely to know what is expected from any particular assignment. A tutor who is not much older than the learner also is felt to be a more believable model in terms of skill requirements and the strictness of performance criteria. Almost all experts agree, however, that the ability levels of the tutor and learner should be far enough apart to keep the learning tasks from being too much of a challenge to the tutor.

Which kind of children make the best tutors?

That seems difficult to predict. Unless forced into a tutoring role against their wishes, most children seem to have an equal probability of success. Bright tutors may be more able to stimulate bright learners, on the other hand, and tutors who themselves have long histories of learning difficulties may be extra helpful to slow learners. Being motivated to become a tutor by a sense of wanting to help someone else seems to be

of value. Even children who appear not to get along well with others of their own age often turn out to be superior tutors if given sympathetic training and ample support. These children sometimes profit more from tutoring than the learners.

Isn't it a problem when only some children are singled out as learners in need of special assistance?

Almost all children, even those in the lowest grades, are fairly realistic about the ability ranking of the students in their own class. It often takes several years of school experience or considerable pressure from home before children become defensive over their learning difficulties. The usual experience in tutoring programs is that slow learners look forward to extra help which allows them to more freely participate in regular class activities. Children who learn slowly should not pose any problems in in-class, practice programs so long as helping relationships are encouraged. The value of tutoring easily could be destroyed, however, by a teacher who urges pairs to compete with each other to see which finishes first.

How can discipline be handled and disruptions controlled?

Most misbehavior is more easily prevented than controlled. Disruptions during a tutoring session usually indicate that the children are frustrated with their task and unhappy about their relationship with each other. Correction of the problem requires help for the tutor, through either more assistance in selecting materials or aid in being more responsive to the learner's needs. Children do act up even in the best of programs, however. To deal with them, many tutoring programs establish ground rules which are made clear to both members of the pair from the very beginning. A

learner who becomes disruptive then expects to be reported to the classroom teacher immediately. Tutors almost never are given responsibility for attempting to control misbehavior or for administering discipline.

What happens when one member of a tutoring pair is absent?

Many programs prepare the learners for the possible absence of their tutors and, when it does occur, a simple explanation will do. Younger children seem to suffer considerable disappointment when their tutor does not appear, particularly in remedial programs where slow learners can view a missed session as a form of rejection. A much more significant problem, on the other hand, is the absence of a receiving teacher. Unless clear instructions have been left, the substitute teacher may not follow the regular teacher's normal routine, and this can have a damaging influence on the tutoring relationships.

What kinds of grading standards can be applied to tutoring?

Several programs using junior or senior high school tutors offer tutoring as a credit elective which can be taken in place of music, shop, or a foreign language. In some instances, it is possible to give credits without assigning grades. Where grades do have to be given, the practice seems to be to grade on attendance, record keeping, and other administrative duties rather than on the tutor's performance in the tutoring sessions. Some programs add responsibilities, such as assigning the tutors the task of preparing instructional materials, just to provide a basis for grading without having to evaluate the tutor's instructional skill.

What is the receiving teacher expected to do?

Tutors generally depend on the learner's teacher for specific

guidance on what is to be accomplished during the tutoring sessions. In some instances, the receiving teacher will prepare a daily assignment sheet listing objectives and lay out a supply of suitable instructional materials. Other teachers are less specific. They assign general topics, such as story reading, and let the tutors use their own judgment as to what exact help is needed. Few teachers schedule a group teaching period at the time the tutors arrive. The tutors sit with their learners during this teacher-led period and then take them off for individual practice following the same techniques they observed being used by the classroom teacher.

Who usually takes responsibility for starting and coordinating a tutoring program?

In various schools, resource teachers, guidance counselors, administrative staff, and individual classroom teachers all have initiated programs. Large-scale efforts obviously depend on someone who can devote a considerable amount of time to making arrangements, organizing materials, training the tutors, and monitoring the individual tutoring sessions. Small programs, involving perhaps only one upper and one lower grade class, can be made to work far more easily, and the two teachers can handle most responsibilities themselves. The most important ingredients seem to be clear objectives, an honest respect for the capabilities of the students, and a willingness to help children learn to help each other.

CHAPTER 7. PROSPECTS AND RESOURCES

Formally organized programs of peer tutoring have had a long but thin history in educational practice. It has been only in the past few years that a range of programs has been described in published literature, that systematic research has been undertaken on variables affecting the tutoring process, and that training and other guidance materials have become generally available. Still, new ideas have appeared as the prevalence of programs has grown, and this process is expected to continue as the benefits of children teaching children become better recognized. What are some of the directions peer tutoring is likely to take in the future?

Students as Teaching Resources

The teacher crisis of the 1960's has now passed, and the shortage of qualified teachers that encouraged many new innovations in education has been eliminated. Except in extreme cases, however, the size of typical classes has not been diminished. Budget pressures are preventing the achievement of levels of teacher-pupil ratios that most professional educators feel are required if individualized attention is to become characteristic of most schools. Students themselves have not been generally considered appropriate as instructional resources, perhaps because the value of the experience for the giver, as well as the receiver, went unrecognized. There is now a considerable backlog of data that shows otherwise.

Individual attention is important. Some children are marginal learners. They learn a little too slowly to keep up with their class but a little too quickly to be left behind. Their cumulative school experience is one

of frustration, despair and withdrawal. Saving these children represents an important responsibility of education, but one which often is too expensive to be met through special classes, added teachers, or paid aides. Yet, vast numbers of students are willing to go to almost any length to get themselves actively involved in meaningful activities. They have few of the opportunities that existed even a generation ago for part-time work or other responsibilities.

It is also clear that the role of education is changing. Preparing students to meet challenges they will face as adults requires far more than the mastery of reading, writing, and arithmetic. Teaching children how to get along with each other may be one of the most significant responsibilities of education today and developing positive helping relationships may be at least as important a reason for using peer tutoring as aiding cognitive growth. Conventional teaching practices may not meet these new needs. Teaching tends to do what it can do best; so knowledge and related skills have become emphasized in our educational programs because these outcomes can be produced by a teacher at the front of a classroom. However, many educators have become increasingly aware of the need for a broader perspective.

Introducing change without simultaneously disrupting all that is of value in the way education is now offered is a serious concern. Controversies over the 'alternative' schools currently being established suggest the depth of feelings about educational practices among various groups in our society. Yet, such radical changes may not be required. Giving pupils greater participation in their own educational process, and serving their personal as well as their intellectual needs, is entirely plausible within

the structure of present day schools. These outcomes may never be realized, however, without use of all the resources presently available to education.

More than just the introduction of peer tutoring programs may be required. Combining upper and lower grade classes within a single classroom, giving children greater responsibility for understanding with teachers rather than under their direction are other changes which may follow the introduction of peer teaching. The participation of learners themselves in planning, conducting, and evaluating their educational experiences could lead to the kinds of school climates that so far have been beyond grasp. Peer tutoring nevertheless represents a reasonable first step.

Current Trends

The very variety of ways in which children can teach other children suggests that programs have been developed to meet a broad range of educational needs. Some programs are quite informal, others are highly structured. Some focus on cognitive outcomes, others emphasize social development. Some are directed particularly at the learner, others are aimed primarily at helping the tutor. This diversity demonstrates the overall utility of using students as teaching resources, but it also can lead to concerns over the choice and design of a program to meet the needs and circumstances of an individual school or classroom. Which kind of program is best?

Unfortunately, there is no research suggesting one kind of program is better than any other. This is due not to researchers failing to recognize the importance of basic comparisons but, instead, to their awareness of the number of influences affecting a child's educational progress. The way

tutoring is used, and even its use at all, depends on how it fits into the rest of the instructional process. Not all teachers feel that peer tutoring is an effective use of class time. Not all administrators are willing to give priority to peer tutoring in allocating personnel resources. And not all pupils necessarily need peer tutoring to achieve expected levels of academic and social competence.

On the other hand, peer tutoring can be an exciting and constructive part of almost any educational plan. Teachers who do use tutoring programs often find that they make substantial contributions to their students' progress. Administrators who adopt programs regard them as ways of enhancing their entire educational program. And participating pupils almost always see peer tutoring as an enjoyable, helpful school experience. Some programs, such as the one in Pocoima, have been enormously successful while others, including those by Eagleton (1973) and Kelly (1970), failed to produce distinctive benefits. But a trend toward the more widespread use of peer tutoring is evident.

As more and more educational practitioners become involved in peer tutoring, several encouraging changes in the characteristics of these programs have occurred. These changes are not necessarily infallable as guides for what will happen in the future, but they do provide some indication of what can be expected. Anyone intending to incorporate peer tutoring in his or her overall teaching program should be aware of these developments and the reasons for them. Largely, they reflect the experiences of educators who have experimented with tutoring programs and thus provide insights as to which directions are most promising.

First, an increasing number of programs are being designed with the school, rather than research, in mind. The sometimes rigid requirements

imposed by laboratory-style experimentation are giving way to greater emphasis on ways of meeting the requisites for a smoothly functioning program. Research is continuing, of course, but the aims of these investigations are more and more frequently directed at questions that can be solved within the limitations of typical budgets, the structure of ordinary classrooms, and the capability of available school personnel. In this sense, research on peer tutoring is tending to become more practical and less abstract.

Second, the tendency in newer programs is away from theory and toward more flexible and adaptable designs. Different kinds of approaches are being recommended to meet different kinds of needs, and programs increasingly are being designed which incorporate features from several different sources. This trend will permit tailoring programs to better meet individual classroom and pupil needs in the way tutoring activities are designed, tutors and learners are paired, and sessions are scheduled. The judgment of the classroom teacher in organizing programs, selecting materials, and providing direction is increasingly being relied upon to make programs do their job effectively.

And third, there is growing recognition that both social and academic gains, and both tutor and tutee benefits, can be aimed for in the same program. Although it is not yet clear how each specific objective can be reliably achieved in terms of program design, it is clear that none of these objectives must be excluded because others are present. From a practical point of view, it normally will be expedient to give priority to some particularly essential outcomes, but other goals should be considered simultaneously. Improved clarity in the statement of program objec-

tives and better techniques for assessing both social and academic results are developments which are fostering multipurpose tutoring projects.

Taken together, these trends suggest that it is becoming increasingly possible to design programs to meet specific purposes rather than having to accept particular program models as they were used elsewhere. There are a number of general principles, of course, which can be used as guides in the implementation of any program and which should improve its quality. The divergent assortment of demonstrably successful projects, on the other hand, makes it clear that good peer tutoring depends upon few hard and fast rules. Any teacher can feel free to use his or her own imagination to come up with useful new combinations of tutoring techniques and possibly improve on the present state of the art as well.

Promoting Change

Bringing about change cannot be left to everyone else. Not all teachers are interested in seeing change occur. But those who are determined to create improvements must take the initiative. An individual teacher may not be able to alter the course of education. Collectively, on the other hand, everyone's combined efforts can accomplish something significant and lasting. The benefits obtainable from peer tutoring may represent only one facet of all that is needed, but this kind of inexpensive, flexible innovation may well be a good place to begin.

What, then, can individual classroom teachers do? First of all, they can examine the goals of education in their own schools and classrooms, and decide for themselves if these goals honestly are being achieved. Some undoubtedly are. Others will require solutions well beyond those an individual teacher can introduce. Still others can be dealt with at the

classroom level, using techniques such as peer tutoring. Recognizing a need is only one step, however. Doing something requires more than thinking about the problem or reading about potential solutions. Even a good try may be better than nothing at all.

Teachers who are convinced that peer tutoring may be what is needed in their school or classroom should, whenever possible, seek the collaboration both of other teachers and professionals who have had experience with programs elsewhere. There are programs all over the country, and most of them welcome visits from teachers who want to see programs in operation and discuss how they work. Many of these programs will have developed tutor training aids and other materials and should be willing to share these products quite generously. There also is a range of generally available materials that can be used in designing a new program.

More Information

Some particularly helpful guidance materials have been developed in conjunction with various programs throughout the country. These materials can be used as a foundation for designing and implementing a peer tutoring program or for improving a program which already is operating. Somewhat different points of view are represented by each of these manuals, so teachers or administrators who are interested in starting their own programs should consider consulting all of them if possible.

Children Teach Children by Alan Gartner, Mary Kohler, and Frank Riessman is a comprehensive source of information on a number of different tutoring programs, with special attention given to descriptions of the Homework Helper and Youth Tutoring Youth programs. This book should be of particular interest to anyone who wants to know more about programs

directed primarily at benefits for the tutors. Published by Harper & Row, 1971 (180 pages, $5.95).

Cross-Age Helping Program by Peggy Lippitt, Ronald Lippitt and Jeffrey Eiseman is a collection of orientation, training and related materials to aid in establishing peer tutoring programs directed at social development. Published by Institute for Social Research, University of Michigan, 1971 (236 pages, available only as part of a training package which includes a filmstrip and record, $60.00).

A Cross-Age Teaching Resource Manual by John Mainiero, Barbara Gillogly, Orval Nease, David Sherertz, and Peggy Wilkinson is a detailed description of the cross-age tutoring program in the Ontario-Montclair, California, School District. Special attention is given to the content of tutor-training seminars. Published by La Verne College, La Verne, California, 1971 (126 pages, $3.00).

How to Organize an Intergrade Tutoring Program in an Elementary School by Grant V. Harrison explains how to begin a structured tutoring program in beginning reading or beginning mathematics using simple school-made instructional materials. Suggestions for training the tutors are included. Published by Brigham Young University Printing Service, 1971 (107 pages, $2.65).

A Teacher's Guide to Programmed Tutoring in Reading by Elbert H. Ebersole describes the program started at the Soto Street School in Los Angeles to improve the reading skills of first and second graders through cross-age tutoring. The tutor-training sessions, the materials used by the tutors, and the procedures they follow with the learners are explained. Published by EberSon Enterprises, 120 W. Union St., Pasadena, 1971 (92 pages, $3.95).

Tutoring Can Be Fun by Herbert J. Klausmeier, Jan T. Jeter, and Nancy J. Nelson is a delightful booklet meant for upper-elementary and junior high school tutors. Although prepared primarily for use in implementing the Individually Guided Motivation (I-G-M) Program, it is suitable for tutors in any flexible cross-age program. Published by the Wisconsin Research and Development Center for Cognitive Learning, University of Wisconsin, 1972 (54 pages, $1.75).

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