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Peer Tutoring With the Learning Disabled: A Critical Review

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ABSTRACT **Three review articles, six essays, and nine empirical studies on peer tutoring were assessed. Support for tutoring was provided in each study, and each emphasized different aspects of the peer tutoring technique—support for the integration process, effects on self-esteem and achievement, aid in classroom management, and reinforcing system for learning. Successful models and uses for peer tutoring with learning-disabled (LD) students are discussed. Suggestions for implementing peer tutoring programs in regular and special education are given.**

Although the peer tutoring technique has gained popular support as an instructional technique only during the past 20 years, its roots delve as far back as 1797 with Andrew Bell's system of education based on cross-aged tutoring. Since that time, the traditional educational setting has become the self-contained, age-separated classroom that substantially impedes the efforts of cross-aged tutoring (Osguthorpe & Scruggs, 1986). Tutoring using regular classroom peers has been proved to increase the achievement of both regular and learning-disabled students and is a solution to the separation problem (Ehly, 1987; Scruggs & Osguthorpe, 1986). Achievement increases occur largely because of the individualization of instruction and the increased chances to respond (Delquadri, Greenwood, Whorton, Carta, & Hall, 1986). Several empirical studies have found that the positive effects of tutoring using LD tutors, as well as LD tutees, are equally convincing (Christoplos, 1973; Osguthorpe & Scruggs, 1986). Acting as a leader—even in a dyad—leads to increased awareness toward the teacher position and the development of responsible study habits (Osguthorpe & Scruggs, 1986).

Results from previous studies have focused, to a large extent, on the effects of peer tutoring using regular-education students as both the tutors and tutees. Special-education students have even higher needs in self-esteem, responsibility, social skills, and attitudes toward school than do their regular-education peers. The benefits of peer tutoring could be great with this population, and empirical research supports its use with LD and other mildly handicapped students within a regular- and special-education setting. The number of studies on peer tutoring is increasing, and because the investigations cover an array of related topics, support for the instructional technique comes from many different vantage points. Several review articles have attempted to synthesize the findings with respect to general education. This review is only the second study that attempted to organize the research on peer tutoring for special-education and LD students in particular. Following is a brief review of studies that have supported the use of peer tutoring as an alternative and supplement to traditional instruction.

An Instructional Alternative

The benefits of using peer tutoring as an instructional technique are numerous, and with proper introduction and training there are no apparent negative effects. Obtaining at least comparable academic achievement is of extreme importance when introducing an alternative to traditional, teacher-mediated instruction. Peer tutoring has been found to produce superior weekly achievement outcomes for inner-city students in comparison with typical teacher instruction (Greenwood, Dinwiddie, Terry, Wade, Stanley, Thibadeau, & Delquadri, 1984). In that study, the lowest achievers in the class improved to the largest extent, demonstrating greater amounts of academic responding and higher weekly test scores. The low achievers were often found to be performing at the level of their higher achieving classmates when peer tutoring with regular classmates occurred.

Willis, Morris, and Crowder (1972) found similar results with disabled readers who read at least three grade levels behind their peers (although it is not stated if they were classified as LD). The researchers stated that the simplicity, economy, and effectiveness of the technique supports broader application. Using peer tutoring as a method of instruction, therefore, can improve the achievement outcomes of lower functioning students.

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Delquadri et al. (1986) and Greenwood, Carta, and Hall (1988) support the use of peer tutoring because it presents increased opportunities for all students to respond. Low achievers need the individualized instruction that peer tutoring in dyads or small groups can present. In Delquadri et al., Elliott, Hughes, and Delquadri (1984) using regular-education and lower achieving students, found students' active engaged time in those groups to increase from 28%in a regular reading period to 78% when peer tutoring was implemented during the same period. The achievement outcomes and student engaged time are obviously in support of this instructional technique with normal- and lower achieving students. Although one cannot derive direct empirical support for the benefits of peer tutoring and increased opportunities to respond for LD students from those few studies, positive effects are clearly postulated for all types of students.

Peer tutoring with all students, but particularly LD students, facilitates increases in self-esteem (Watts and Cushion, 1982). Trained participants, both tutors and tutees, assume the responsibility of teaching and learning for themselves. The participants become more self-reliant, and with continued success acting in both roles, they begin to take control of their own learning. LD students, possessing lower self-esteem than most children, have benefited greatly from the technique (Watts & Cushion, 1982).

Assessing the attitudes of the LD, as well as regular education, children shows a degree of acceptance from the consumers of peer tutoring. Eiserman (1988) investigated the attitudes of LD students and their regular class peers toward three types of peer tutoring: (a) regular-class students as tutors for handicapped students, (b) handicapped students as tutors for handicapped students, and (c) handicapped students as tutors for regular-class students. When students with learning disabilities acted as tutors for regular-class students in learning sign language, both groups gained the greatest effects. Initially, extremely negative attitudes existed toward tutoring in groups with LD peers, but posttest results indicated an increase in positive attitudes toward LD peers, school, and learning. The findings suggest that placement of learning-disabled and regular-education students may be the most advantageous setting for both types of students.

The peer tutoring technique presents a solution to the problem of how to address individualized instruction to children of diverse needs in a large classroom. The technique can be used to increase LD students' achievement and self-esteem needs, and their attitudes toward others and school in general. In the next section, I reviewed current peer tutoring programs.

Successful Programs

The implementation of peer tutoring as an instructional alternative has been implemented successfully in several programs. Two current programs, Classwide Peer Tutoring (CWPT) and Classwide Student Tutoring Teams (CSTT), were developed at the Juniper Gardens Children's Project in Kansas City, Kansas. The specific purpose of the programs was to improve the schooling of minority, disadvantaged, and LD children. A third program was developed by Harris and Aldridge (1983) as an alternative to grouping peers in dyads for tutoring. Other variations of the models are also described. The programs were intended to aid in the delivery of instructional content already presented by the teacher. Following is a description of each of the programs.

Classwide Peer Tutoring. This program, the first to be devised, has four major characteristics: (a) different teams compete on a weekly basis, (b) teaching procedures are highly structured, (c) points are earned by day and student performance is displayed publicly, and (d) students obtain direct practice in functional academic skills. The academic skills to be tutored are usually chosen by classroom teachers. Within this model, the class is split weekly into two teams, each comprised of several tutoring dyads. The students spend 10 to 15 min playing in each role of the relationship. Test points and bonus points are summed for each team per week, after which a "Winning Team of the Week" is chosen (Maheady, Harper, & Sacca, 1988c).

Several studies have investigated the success of the CWPT model (Delquadri et al., 1986; Maheady, Harper, & Sacca, 1988a; Maheady, Sacca, & Harper, 1988b). The positive effects of the model have been demonstrated with learning-disabled, secondary resource-room students (Maheady, Sacca, & Harper, 1988a), mildly handicapped students receiving consultative services within regular high school classes (Maheady, Harper, & Sacca, 1988b), as well as elementary-aged students (Greenwood et al., 1984). The CWPT approach has proved to be a powerful intervention resulting in reading, mathematics, and spelling improvement in LD students.

Delquadri et al. (1986) discussed the principles of the CWPT program in an essay review. Empirical support for the CWPT program is found in two similar studies (Maheady, Harper, & Sacca, 1988a; Maheady, Sacca, & Harper, 1988b). Maheady et al. (1988a) implemented the CWPT program with 20 secondary resource-room students. Students in Classroom 1 showed an immediate increase in social studies quiz scores—11 to 29 percentage points above the baseline mean—causing one third of the class to earn *A* grades following Classwide Peer Tutoring. Classroom 2 students also reversed a declining trend in their scores to establish a mean increase of 3 to 16 points following CWPT. As evidenced by student and teacher evaluations of the program on a three-point Likert scale, both the students and teachers enjoyed and benefited from the CWPT program.

A second, similar investigation was conducted by Maheady et al. (1988b) in a slightly different setting. Fifty mildly handicapped high school students, placed in three

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regular-education social studies classes and receiving consultation from special educators, served as subjects in evaluating the effectiveness of the CWPT program. Classroom teachers identified critical social studies content and developed weekly study guides and quizzes. The training of teachers and students occurred during two 30-min role-play sessions followed by in-class supervision by one of the investigators. Points were earned for good behaviors as well as for correct responses and were summed at the end of each 30-min tutoring period and posted in class. (For more details on implementation of CWPT, see Maheady et al., 1988b).

Weekly social studies quizzes, the dependent variable in this study, were given at the end of each week, and students could earn team points for correct answers. Following CWPT, test score gains ranged from 19 to 27 percentage points over the baseline mean. Additionally, test scores of mildly handicapped students frequently exceeded those of their regular classroom peers. Results clearly indicated the success of CWPT with mildly handicapped students, including the learning disabled. Greenwood et al. (1984) also demonstrated CWPT to be an effective tool in increasing mathematics, spelling, and vocabulary performance of Chapter I elementary school students.

Studies analyzing the CWPT technique (Greenwood et al., 1984; Maheady, Harper, & Sacca, 1988a; Maheady, Sacca, & Harper, 1988b) have used high-quality research designs, thereby lending further support to the validity of their positive outcomes (i.e., achievement increases) with learning-disabled tutors and peers. Specifically, Maheady et al. (1988a, 1988b), implemented an ABAB withdrawal of treatment design (phase A, teacher instruction and phase B, peer-mediated instruction) across classrooms in both of their studies on CWPT. Clear distinctions were easily seen between the success of the two alternative instructional activities compared (teacher vs. peer-mediated instruction) by withdrawing treatment following a period of increased achievement. Additionally, the multiple baseline component of the design for the two studies (Maheady et al., 1988a, 1988b) lends further support to the positive outcomes of the tutoring intervention by measuring and reporting its success across two and three classrooms of students.

Greenwood et al. (1984) discussed three experiments. Experiment 1 involved a counterbalanced reversal design with three phases that was used simultaneously across three classrooms. Counterbalancing the order of the methods of instruction allowed for the testing of ordering effects in the presentation of tutoring. The reversal, like withdrawal of treatments, clearly portrayed shifts in student achievement based on instructional format. Consistent effects found across three classrooms and two subjects lent further support. Experiments 2 and 3 involved multiple baseline and multiple baseline with ABA reversal designs (a period of teacher instruction was followed by peer tutoring and again by teacher instruction), thereby replicating previously reviewed designs that successfully exemplified the effects of the CWPT intervention.

Student tutoring teams. The Classwide Student Tutoring Teams (CSTT) program was developed as a result of the success of CWPT. CSTT combines several elements of the CWPT programs with elements of the Teams-Games-Tournaments (TGT) program. CSTT differs only in a few procedural components from the CWPT model: (a) Classrooms are split into several small teams instead of two large teams. (b) Students are systematically rather than randomly assigned to groups so that skill levels are equal. (c) Teams remain constant for 4 to 8 weeks instead of changing weekly. Also, (d) competition between groups is weekly, but the groups remain intact with the start of a new competition.

The effectiveness of CSTT was investigated with learning-disabled and behavior-disordered secondary students (Maheady, Sacca, & Harper, 1987). Peer tutoring was used in six mainstreamed mathematics classes while employing the CSTT model. Weekly mathematics quiz scores increased 20% during implementation of the model, and with withdrawal, there was a substantial 20% decrease in scores. Eight of the 28 mildly handicapped students maintained average scores above 90% during CSTT. The data, along with the quality of this research design, provided support for the use of the CSTT model in mainstreamed secondary classes.

The peer trio technique. Harris and Aldridge (1983) developed an alternative to the traditional pairing of LD students and "slow learners" for peer tutoring. Success was found with this model for students in Grades 4 through 6. In the peer trio technique, students are selected in terms of a common need (remediation) and placed in groups of three. Harris and Aldridge claim that three students are better than two for the purposes of socialization, responsibility, cooperation, and tutoring. The technique is used when a group of students in a class require remediation for particular skills. The pattern has the same advantages as the traditional dyad model in terms of cooperation and increased responsibility levels, as well as one unique advantage; that is, it allows the teacher to continue instruction with students who have attained mastery on a skill.

Conclusions

There are no alternative techniques that will replace the need for classroom teachers and the traditional approach to instruction. However, in a classroom of up to 35 students with diverse academic and social needs, viable techniques must be available to teachers who seek the best education for their students, whether they are regular or LD students. Peer tutoring is one such technique that has been supported by many areas of research.

The traditional model for peer tutoring has employed two regular education students, with an older student tu-

toring a younger student. Variations on role taking between tutor and tutee have been demonstrated in recent years, particularly with special education students. Previously, LD students were used only to fill the tutee role. Recently, however, learning-disabled students have been found to be as successful as other peers in the tutor role (Osguthorpe & Scruggs, 1986). Some researchers found LD students to be successful tutors of nonhandicapped peers, and many others (Osguthorpe & Scruggs, 1986) also found success with younger disabled students. Positive outcomes can be obtained with LD students acting as either tutors or tutees, as long as training and supervision are adequate. A brief and easy model to follow for successful implementation of peer tutoring can be found in Casanova (1988).

Mainstreamed or integrated classroom settings are ideal locations for the implementation of peer tutoring. Classrooms that use peer tutoring can facilitate the integration process for both the teacher and the students (Christoplos, 1973; Maheady, Sacca, & Harper, 1987). Because both integration and peer-tutoring programs are key elements in the future of regular and special education, further research on LD students acting as tutors in those settings is needed.

Several types of peer tutoring programs exist, yet of the programs developed at Juniper Gardens and peer tutoring in general, there are no equivocal results highlighting the aspects of the programs that facilitate success (Scruggs & Ritcher, 1988). To date, replication of the CWPT and CSTT programs has occurred only in those studies discussed in this review. The amount of research on peer tutoring in general suggests a clear understanding of the topic, but this inference is incorrect (Devin-Sheehan, Feldman, & Allen, 1976). Studies of various quality and scientific value exist, and they focus on an equally large number of topics. Previous findings suggest that peer tutoring is an extremely useful and effective alternative to traditional instruction. Nevertheless, the related issues are so complex that further research into the effectiveness of the various components of peer tutoring remains as the next logical step.

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