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A FOCUS on Class Wide Peer Tutoring

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What is it?

Class-wide peer tutoring refers to a class of instructional strategies in which students are taught by peers who are *trained* and *supervised* by classroom teachers (Greenwood, Maheady, & Delquadri, 2002). The oldest and most widely researched class-wide peer tutoring (CWPT) approach was developed and refined at the Juniper Gardens Children's Project in Kansas City, over the past 20 years. CWPT emerged from collaborations of researchers and teachers who were seeking instructional methods for successfully integrating children with special needs into general education settings and resulted in providing instruction in reading, math, and spelling to all children in the classroom for approximately 30 minutes per day in each subject, three to five days per week (Delquadri, Greenwood, Stretton, & Hall, 1983). As such, CWPT became a form of intra-class, reciprocal peer tutoring in which pupils alternated tutor and tutee roles during each session. Similar class-wide models have emerged; (e.g., Peer Assisted Learning Strategies (PALS) (Fuchs, Fuchs, Mathes, & Simmons, 1996); The Ohio State Peer Tutoring Program (Cooke, Heron, & Heward, 1983); Class-wide Student Tutoring Teams (CSTT) (Maheady, Harper, Sacca, & Mallette, 1991); and Reciprocal Peer Tutoring (RPT) (Fantuzzo & Ginsburg-Block, 1998) to expand the utility and flexibility of class-wide tutoring methods.

For whom is it intended?

Since peer-teaching methods are flexible, they can be used across a variety of age, grade, and subject areas and with varying degrees of structure and support. They are most appropriate, however, for pupils who are in need of academic, behavioral, or interpersonal assistance, as well as those who might benefit from providing such help. Therein, lies one of the primary benefits of peer teaching relationships. When structured appropriately, peer-mediated instructional approaches such as CWPT produce *mutual benefits* for service providers and recipients. When applied on a class-wide basis, such models allow teachers to actively engage all students simultaneously in academic pursuits while producing ongoing outcomes to monitor progress. CWPT model was designed initially for pupils in grades 1-6 and in the areas of reading, spelling, and mathematics. It was subsequently extended to secondary content-area courses in both general and special education settings. Newer models have extended basic peer teaching practices to include "higher order" skills such as providing conceptual math explanations (L.S. Fuchs et al., 1997), and asking thought provoking questions and providing elaborated responses in science (King, Staffieri, & Adelgais, 1998), while others have combined class-wide tutoring components with self-management (Mitchem & Young, 2001) and reading comprehension strategies to improve the academic and behavioral performance of pupils with special needs in general education settings.

How does it work?

There are four, primary components to the CWPT program: (a) weekly competing teams, (b) a highly structured tutoring procedure, (c) daily point earning and public posting of pupil performance, and (d) direct practice in functional instructional activities. In using CWPT, the teacher's role changes from primary "deliverer" of instruction to facilitator and monitor of peer-teaching activities. A typical CWPT spelling lesson follows.

Each Monday two competing teams are formed by having students select either a red or blue piece of paper from a covered box. The number of students in class determines how many pieces of paper are placed in the covered box (e.g., 24 students; 12 red and 12 blue pieces). The teacher then puts students with the *same* colored paper into tutoring pairs (i.e., 6 "red" and 6 "blue" pairs). Team membership and partners stay the same for the remainder of the week. Each subsequent Monday, students reach into the covered box and are assigned to different teams and partners. Throughout the school year, pupils typically move from team to team and have an opportunity to work with every peer.

Within each pair, tutoring roles are *reciprocal*; students function as both tutors and tutees during *each* session and follow a highly structured tutoring procedure. After pupils retrieve their tutoring materials, the teacher sets a timer for approximately 10 minutes. For the first 10 minutes, one pupil within each pair serves as tutor. Tutors' jobs are to: (a) present each item on previously constructed curriculum materials (e.g., weekly spelling lists) and (b) provide feedback (i.e., verbal and points) contingent on their tutee's response. Tutees, in turn, are required to spell, orally and in written form, each dictated spelling word. Tutors then award two points for each word spelled correctly. If tutees misspell the target word, however, tutors say "incorrect" and

then provide the correct response (i.e., tutors orally spell the word). Tutees then correct their errors by engaging in a brief positive practice activity (e.g., they spell and write the word correctly three times). If the error has been corrected appropriately, then the tutor awards one point. Failure to correct the error by either refusing to do so or making another mistake during the correction phase results in 0 points. Students complete as many items as possible before the time period elapses. They are also told that the more items they complete correctly, the more points they will earn for themselves and their respective teams. When the timer goes off, students *reverse roles* and follow the same tutoring procedures for the remainder of the CWPT session.

Bonus points are also awarded on a daily basis when pupils are "caught" engaging in appropriate tutoring roles. Teachers award bonus points to tutors who maintain a brisk pace, provide clear and concise feedback, use the error correction procedures appropriately and/or provide unsolicited supportive comments. Similarly, tutees earn bonus points by working quickly and accurately, correcting their errors immediately and without comment, and/or producing high quality responses. Teachers circulate around the classroom and award bonus points by writing *in a different colored pen* on each recipient's paper the number of bonus points earned and commenting on why they were earned.

Following the second tutoring phase students total the number of points earned, including bonus points, and write their respective totals on their papers. Student points, individual as well as daily and cumulative team totals, are then displayed publicly on a laminated scoreboard in the front of the classroom. CWPT procedures typically remain in effect from Monday through Thursday. On Fridays, pupils are evaluated *individually* using existing assessment procedures (e.g., weekly spelling tests). Individual spelling words are read orally, put into a sentence, and repeated by the teacher. Pupils are told that they can earn five (5) points for themselves and their respective teams for each word they spell correctly on the test.

Point earnings from weekly spelling tests are then added to cumulative point totals for each team to determine a weekly winning team. Team of the Week certificates are presented and signed by each member of the winning team. Certificates are then posted on the outside wall of each classroom or within the room itself. Each week new competing teams are formed, thereby increasing the probability that each student will participate on a winning team, while simultaneously minimizing the possibility that cliques will develop.

The final CWPT component involves direct practice in functional instructional activities. In spelling, for example, pupils orally spell and write words from memory (as opposed to engaging in spelling recognition activities) while in mathematics they directly practice their computational skills. In reading, tutor pairs take turns reading and summarizing what they have read whereas in content area courses, tutor pairs typically quiz one another using study guides and/or concept cards that "highlight" important curricular content.

How practical is it?

While most empirical research has focused on the effectiveness of CWPT and other class-wide peer teaching models, a considerable amount of work has been done on the practicality of using such methods on a routine basis. Informally, we have found that while CWPT does require additional time and effort on the teacher's part, particularly in the initial stages of implementation, the benefits that accrue usually offset initial costs. Teachers and students must be trained, appropriate curriculum materials must be developed, and pupil outcomes must be assessed and monitored on an ongoing basis. Since class-wide tutoring programs such as CWPT, CSTT, and PALS are specific practices, they must be implemented with a high degree of fidelity to maximize beneficial effects on student learning (Greenwood, et al., 2002). As such, inservice training, in class assistance and ongoing support are usually necessary to maintain teachers' use of such programs. Maheady, Harper, Mallette, & Winstanley (1991) found that elementary school teachers could learn to use CWPT in spelling with high degrees of accuracy in as little as one and a half to three hours. Moreover, once trained, all but one teacher continued to use the program with a high degree of fidelity and a minimum of consultant assistance. Other studies have found, however, that without appropriate training, consultation, and support the powerful academic effects of CWPT can become diluted. Greenwood and his colleagues reported, for example, that lowered student outcomes were associated with: (a) reduction in students' time to learn in CWPT sessions (e.g., school absences, pulled out from CWPT sessions, fewer than three sessions per week), (b) use of unchallenging materials, and (c) low-quality peer tutoring (Greenwood, Terry, Arreaga-Mayer, & Finney; 1992).

To improve the practicality of CWPT use, researchers have developed systematic training materials (e.g., teacher's manual and video) and outlined professional development activities to assist and maintain teachers' use of such procedures (Abbott, Walton, Tapia, & Greenwood, 1999). Teachers are helped to develop a minimum of six to eight weeks of tutoring material *before* they start using CWPT. It is also suggest that teachers include "review" or easier material into initial CWPT sessions to allow pupils to experience high success in terms of both acquiring content and CWPT procedures. Finally, it is important that programs such

as CWPT be used to supplant and not "add on" to teachers' existing instructional demands.

How effective is it?

An Educational Resources Information Center (ERIC) review found that at least 25 published studies have shown CWPT to be superior to conventional forms of teacher-led instruction in improving pupils' academic outcomes (Greenwood, Arreaga-Mayer, Utley, Gavin, & Terry, 2001). Perhaps the most compelling support comes from a 12-year experimental longitudinal study (Greenwood & Delquadri, 1995). Here researchers compared groups of students who received CWPT to groups of at-risk and non-risk students who did not receive CWPT. They found that CWPT increased students' active engagement during instruction in grades 1 to 3, improved student achievement at grades 2, 3, 4, and 6, reduced the number of CWPT students in need of special education services by 7th grade, and decreased the number of students who dropped out of school by the end of 11th grade (Greenwood et al., 2002).

CWPT has also been used successfully to integrate students with autism into the general education curriculum (Kamps, Barbetta, Leonard, & Delquadri, 1994), to teach health and safety-related information to children with mental challenges (Reddy, Utley, et al., 1999), and to improve the academic, linguistic, and social competence of English Language Learners (e.g., Arreaga-Mayer, 1998). Additional support for CWPT has come from a diverse group of researchers outside of Kansas City. For example, studies involving CWPT and Classwide Student Tutoring Teams (Maheady, Harper, & Mallette, 2001) and numerous studies using PALS (e.g., Fuchs, et al., 1997) have been conducted. These investigations involved elementary and secondary students, took place in general and special education settings and focused on spelling, math, social studies, science, and health instruction. Across all investigations, students, with and without disabilities, have shown marked improvements in their academic performance as result peer mediation.

What questions remain?

A considerable amount of empirical research has shown CWPT to be a highly effective instructional option for accelerating student learning. Clearly, additional research is needed in the early elementary years and across a variety of secondary content area courses. Specific questions remain as well regarding the necessary and active ingredients in particular class-wide tutoring methods, the utility of such procedures for impacting "high stakes" educational outcomes, and issues related to when, where, and why to use specific class-wide tutoring approaches.

Additional research and practice questions might include: (a) what role does curriculum play in the use of class-wide tutoring methods?, (b) how might specific peer teaching approaches be aligned with intended instructional goals and outcomes?, and (c) what are the most appropriate methods for training, disseminating and supporting teachers in their use of class-wide tutoring approaches? We would like to see more interventions that combine peer-teaching methods such as CWPT with improved curricular materials, more explicitness in program developers recommendations regarding when and where to use specific peer-mediated instructional approaches, and a systematic line of research designed to bridge the gap between research and practice in the use of peer teaching methods.

How do I learn more?

Information on the **Juniper Gardens' CWPT program** can be obtained from the following sources:

- Arreaga-Mayer, C. (1998). Increasing active student responding and improving academic performance through class-wide peer tutoring. *Intervention in School and Clinic, 34 (2),* 89-94
- Delquadri, J., Greenwood, C. R., Stetton, K., & Hall, R. V. (1983). The peer tutoring game: A classroom procedure for increasing opportunity to respond and spelling performance. *Education and Treatment of Children, 6,* 225-239.
- Greenwood, C. R., Arreaga-Mayer, Utley, C. A., Gavin, K. M., & Terry, B. J. (2001). ClassWide Peer Tutoring Learning Management System. *Remedial and Special Education, 22,* 34-47.
- Greenwood, C. R., & Delquadri, J. (1995). Class Wide Peer Tutoring and the prevention of school failure. *Preventing School Failure,* 39 (4), 21-25.
- Greenwood, C. R., Delquadri, J. C., & Carta, J. J. (1997). *Together we can!: Class Wide Peer Tutoring for basic academic skills*. Longmont, CO: Sopris West.
- Greenwood, C.R., Maheady, L., & Delquadri, J. C. (2002). Class-Wide Peer Tutoring. In G. Stoner, M.R. Shinn, & H. Walker (Eds.), *Interventions for achievement and behavior problems* (2nd Ed.) (pp. 611-649). Washington, DC: National Association of School Psychologists.

Information on **Classwide Student Tutoring Teams (CSTT)** can be obtained from the following sources:

- Maheady, L., Harper, G. F., Sacca, M. K., & Mallette, B. (1991). *Classwide Student Tutoring Teams: Instructor's Manual and Videotape Package.* Fredonia, NY: School of Education, SUNY Fredonia, Fredonia, New York 14063.

Additional references and information regarding **peer-mediated instructional approaches** can be found in the following resource materials.

- Abbott, M., Walton, C., Tapia, Y., & Greenwood, C. R. (1999). Research to practice: A blueprint for closing the gap in local schools. *Exceptional Children, 65,* 339-352.
- Cooke, N. L., Heron, T. E., & Heward, W. L. (1983). *Peer tutoring: Implementing classwide programs in the primary grades.* Columbus, OH: Special Press.
- Fantuzzo, J., & Ginsburg-Block, M. (1998). Reciprocal peer tutoring: Developing and testing effective peer col laborations for elementary school students. In K. Topping & S. Ehly (Eds.), *Peer assisted learning* (pp. 121-144). Mahwah, NY: Erlbaum.
- Fuchs, D., Fuchs, L. S., Mathes, P. G., & Simmons, D. C. (1996). *Peer-assisted learning strategies in reading: A manual.* (Available from Box 328, Peabody College, Vanderbilt University, Nashville, TN 37203).
- Fuchs, L. S., Fuchs, D., Hamlett, C. L., Phillips, N. B., Karns, K., & Dutka, S. (1997). Enhancing students' helping behavior during peer-mediated instruction with conceptual mathematical explanations. *The Elementary School Journal, 97,* 223-229.
- Greenwood, C. R., Terry, B., Arreaga-Mayer, C., & Finney, D. (1992). The classwide peer tutoring program: Implementation factors that moderate students' achievement. *Journal of Applied Behavior Analysis, 25,* 101-116.
- Kamps, D. M., Barbetta, P., Leonard, B. R., & Delquadri, J. (1994). Classwide peer tutoring: An integration strategy to improve and promote peer interactions among students with autism and general education peers. *Journal of Applied Behavior Analysis, 27,* 49-61.
- King, A., Staffieri, A., & Adelgais, A. (1998). Mutual peer tutoring: Effects of structuring tutorial interaction to scaf fold peer learning. *Journal of Educational Psychology, 90,* 134-153.
- Maheady, L., Harper, G. F., & Mallette, B. (2001). Peer-mediated instruction and interventions and students with mild disabilities. *Remedial and Special Education, 22,* 4-14.
- Maheady, L., Harper, G. F., Mallette, B., & Winstanley, N. (1991). Implementation requirements associated with the use of a class-wide peer tutoring system. *Education and Treatment of Children, 14* (3), 177-198.
- Reddy, S., Utley, C. A., Delquadri, J., Mortweet, S. L., Greenwood, C. R., & Bowman, V. (1999). Peer tutoring for health and safety. *TEACHING Exceptional Children, 31,* 44-52.

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