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The Examination of Classwide Peer Tutoring as a Teaching/ Learning Method for all Students

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These starred papers submitted by Rodney W. Schindele in partial fulfillment of the requirements for the Degree of Master of Science at St. Cloud State University is hereby approved by the final evaluation committee.

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THE EXAMINATION OF CLASSWIDE PEER TUTORING AS A TEACHING/LEARNING METHOD FOR ALL STUDENTS

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EXAMINATION OF THE LITERATURE TO SEE WHETHER STUDENTS WITH DISABILITIES FARE BETTER WHEN INSTRUCTED IN FULL INCLUSION THAN IN TRADITIONAL PULL-OUT SETTINGS

by

Rodney W. Schindele

B.A., The Catholic University of America, 1967

Starred Papers

Submitted to the Graduate Faculty

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Chapter 1

INTRODUCTION

Breaking the cycle of low achievement, grade retention, special education, and early school dropout continues to challenge the educational field (Greenwood, Carta, & Hall, 1988). Levels of academic achievement below expectation are the defining characteristics of many mild forms of disability: learning disabilities (LD), behavior disorders (BD), and mild mental retardation. The postschool status outcomes of students with mild disabilities indicate low employment rates, underemployment, low attendance of postsecondary educational programs, and generally lower adjustment to young adulthood than their peers without disabilities. Only 12% of special education graduates who enroll in some form of postsecondary education actually complete it (Gottlieb et al., 1994). Outcomes like these are even worse for students who attend urban schools, who live in poverty, and who are culturally diverse and/or limited in English (Edgar & Polloway, 1994).

There is no shortage of programs and methods to teach these children in the general education setting to alleviate behavior problems and strengthen learning, but educators find it difficult to move beyond their own planning and

instruction methods which they are already using (McIntosh, Vaugh, Haager, & Lee, 1993).

An educational and instructional method should be developed and implemented that will compensate for the sociocultural and psychosocial risk factors as well as the children's disabilities so that the success rate of students may increase and the drop out rate decrease. This method must include special educators as well as general educators because these students are in the general education classroom together. This classroom arrangement is called inclusive education. Using the inclusive model has demonstrated that students with severe developmental disabilities have higher levels of academic responses and lower levels of competing behaviors when they are in general education classroom setting compared with the special education setting and that students with learning disabilities made academic gains in scores on criterion-referenced tests in general education classroom settings (Hollowood, Salisbury, Rainforth, & Palombaro, 1994).

The inclusive classroom gives us the setting. Just because an at risk student or student who has developmental disabilities is in the inclusive classroom does not automatically assure educational success. The class must be taught in such a way as to assure personal interactive and accountability of all students. One teaching method was designed by a teacher who did not want to teach spelling to students in different ability groups so the teacher

Chapter 2

REVIEW OF THE LITERATURE

This teaching/learning strategy was developed by the University of Kansas and the University does not let any teacher use their work unless they are trained in the use of this strategy first. Teachers are considered trained when they produce a ClassWide Peer Tutoring (CWPT) implementation score of at least 85% on a checklist used by consultant from the University (Greenwood, Delquadri, & Hall, 1989).

The Development of ClassWide Peer Tutoring

CWPT is an instructional arrangement designed specifically to increase the proportion of instructional time that all students engage in academic behaviors and to provide pacing, feedback, immediate error correction, high master levels, and content coverage (Delquadri, Greenwood, Whorton, Carta, & Hall, 1986). CWPT is a system in which tutor-tutee pairs work together on a classwide basis. At the beginning of each week, all students in a class are paired for tutoring, and these tutor-tutee pairs are then assigned to one of two competing teams. Tutees earn points for their team by responding to the tasks

presented to them by their tutors. The winning team is determined daily and weekly on the basis of the highest team's point total. Tutor and tutee roles are highly structured to ensure that tutees receive rapid response trails in a consistent format and that a standard error-correction procedure is applied (Greenwood, Carta, & Hall, 1988).

The teacher's role is to organize the academic content to be tutored into daily and weekly units and prepare materials to be used within the CWPT format. Tutoring occurs simultaneously for all tutor-tutee pairs and involves the entire class. This leaves the teacher free to supervise and monitor students' tutoring sessions. CWPT involves the following eight component parts: a) content materials to be tutored (e.g., reading passages, spelling word lists, or equations), b) new partners each week, c) partner-pairing strategies, d) two teams competing for the highest team point total, e) contingent individual tutee point earning, f) tutors providing immediate error correction, g) public positing of individual and team scores, and h) social reward for the winning team (Greenwood et al., 1989).

The students must also be trained in and practice the skills necessary for this strategy. The students must be introduced to the concept of CWPT and the idea of helping one another. The idea of teams, productive competition, and good sports are discussed. Another step is for the students to practice moving to their partners in a timely and efficient manner. Then

comes the actual demonstration of the tutoring process. Students learn how to first–deliver the content (question) to their peer, second–provide positive feedback for the correct answer, third–provide corrective feedback and the right answer when the wrong answer is given and fourth–accurately tally the number of points that their peer has earned. After demonstrating the techniques, the students practice using the material, reporting their points, cleaning up, and moving back to their original seats until the procedure and transitions are fluid and correct.

Tutors (one of the two students paired together) present the first word on the spelling list which is to be learned by the tutee. The tutee responds by writing and saying the answer. The tutor then checks the response by comparing it with the correct answer on the list. When an error occurs, the tutor immediately provides the correct answer and then requires the tutee to practice it by writing it three times. Tutees earn two points for each correct answer and one point for correcting an error (Greenwood et al., 1989).

Each session of CWPT is about 20 minutes long; the session is divided into two parts. At the end of the first 10 minute session, the tutor and tutee trade roles and a second 10 minute session is completed. Following the second period, a 5 minute session is used by the students to report aloud to the teacher the number of total points that each had earned, which then is posed on a team chart. Individual points are summed, and team totals

announced. The winning team is applauded, and the losing team is encourage to work harder in the next session. The teacher then moves onto the next activity (Greenwood et al., 1989).

Once peer tutoring procedures are formally implemented, the students in the classroom are randomly placed in one of two teams and then within that team they are paired with one another for the academic subject (DuPaul & Henningson, 1993). During the tutoring session, the teacher circulates among the students to ensure that the correct procedures and the time limits are honored. Additional bonus points are awarded to students who are working well together. Some teachers will take notes as they circulate in order to give feedback at the end of the tutoring session (King-Sears & Bradley, 1995).

Weekly team scores determine weekly "winners," and the students rotate partners each week. This way each student is periodically on a winning team. The general education students are working on individual skill levels, students with learning difficulties are able to earn as many points for their team as students who are at a different level in that content area (King-Sears & Bradley, 1995).

CWPT was originally developed to be used in teaching spelling but as the strategy grew and was used it was obvious that it could be used in more academic areas than just spelling. It has been used in the following areas: Math: basic facts, practice basic skills, problem solving; Reading: oral reading,

reading comprehension, summarization; Spelling: spelling words, spelling activities, spelling rules; Language: sentence structure, parts of speech, story structure; Science and Social Studies: vocabulary, and basic knowledge (King-Sears & Bradley, 1995).

The CWPT strategy was originally developed and used in the elementary school. It has since been used in all grades from elementary through senior high school.

Research on ClassWide Peer Tutoring

Studies have been conducted to demonstrate the effectiveness of this CWPT method. In elementary setting, Utley et al. (1997) and practitioners have recognized the effectiveness of peer influences in improving classroom and academic performance. These influences are referred to as components of CWPT, consist of a) peer modeling, b) peer initiation training, c) peer monitoring, d) peer networking, e) peer tutoring, and f) group-oriented contingencies. Students commonly spend 60% to 80% of a session engaged in reading, writing, and talking about the subject matter. At the elementary school, CWPT is designed to supplement traditional instruction and to replace seatwork, lecture, and oral reading group activities (Utley et al., 1997).

One of the most powerful reasons for teachers to take the time to implement CWPT is that almost all students show academic gains. The first two questions that must be addressed are: a) do students with mild

developmental disabilities and their typical peers receive higher posttest scores on spelling tests during CWPT when compared to teacher-led instruction, and b) do students with mild developmental disabilities and their typical peers engage in higher rates of academic behavior during CWPT when compared to teacher-led instruction? (Mortweet, Utley, Walker, Dawson, Delquadri, Reddy, Greenwood, Hamilton, & Ledford, 1999). The greatest gains are evident for students who are at-risk or have mild disabilities. Progress is also evident for high and average students. In one study, spelling grades before CWPT were "B+," "B," and "C" for students categorized as high, typical, and at-risk/mild disability, respectively. After CWPT, the grades were "A," "A," and "B+" respectively (Kings-Sears & Bradley, 1995). Greenwood (1991) found that students who were at-risk for school failure when CWPT was used as the intervention were able to increase their time on-task, and subsequently their school grades.

In another study, Greenwood et al. (1989) found that classrooms that did not use CWPT were more engaged in nonacademic activities dealing with class business or arts and crafts activities and spend more time using media (e.g., overhead projectors) and participating in teacher and student discussion tasks. These same students also spend more time engaged in task management behavior, i.e., waiting with hand raised, and less time engaged in academic behaviors, i.e., writing, reading aloud, academic talk, and asking

academic questions. In addition, the teachers provided students with relatively higher amounts of disapproval.

One case study involved a seven year old boy referred by his classroom teacher to an outpatient psychiatry clinic due to problems with attention span, impulse control, and activity level. The seven year old boy was reported to pay minimal attention to teacher instruction and as a result, was seen to be underachieving academically, especially in mathematics skills. This study was conducted in the boy's general education second grade classroom. During mathematics time, the whole class participated in CWPT. Curriculum-based measurement probes were used to document changes in his math skills as a function of CWPT. The results of using this method on the boy were very dramatic. There was a dramatic increase in on-task behavior and reduction in motor restlessness during the first peer tutoring condition. Later on there was a reinstitution of baseline conditions (teacher-mediated instruction) and the result was a decrease in on-task behavior (from 70% on task to 23% on task). When CWPT sessions were reimplemented, there was a major increase to on-task behavior (90%) (DuPaul & Henningson, 1993).

The question that must be asked and answered is whether these results are long lasting? A longitudinal study was conducted in Kansas to try and answer this very question. Findings from the first part of the study were: the yearly use of CWPT by the teachers increased students' use of specific

academic materials during daily tutoring sessions and their levels of academic engagement compared to the control group. The children who were taught using CWPT showed more gains and greater gains than the general education method of being taught in reading, language, and mathematic. Also, the gains made by the high at-risk group of children were large enough not to be statistically different from those attained by the high social-economic status, nonrisk group of children (Greenwood, Terry, Utley, Montagna, & Walker, 1993). This did not demonstrate the longer-term benefits of effective instructional practices using CWPT. A follow-up study was then done on the same group of children two years later. All of the students involved in the first study were not contacted for a variety of reasons (some moved out of the school district, some experienced grade retention, some were placed in special education programs, and some just dropped out of school). The results of the second study showed the following results:

a) compared to controls, nonrisk index and at-risk CWPT group students performed significantly better in reading, language, and mathematics two years after the end of the CWPT program. Significant differences in growth between these groups also were extended to science and social studies.

b) these differences favoring the CWPT groups coincided with lower placement rates into and higher placement rates out of special

education program categories and they received less restrictive special education services (Greenwood et al., 1993).

Greenwood et al. (1989) also noted that when adjustments were made for initial Grade 1 pretest achievement and measured IQ differences, the low social-economic status experimental group achieved significantly greater gains in language, reading, and mathematics than did the equivalent low social-economic control group, which received the standard instructional program, which included Chapter 1 services. There were no significant differences between the gains made by the experimental group as compared with the high social-economic status comparison group, which also received the standard instructional program.

Greenwood et al. (1989) also noted that after four years, experimental group students at risk for academic delay exceeded or approached the national norm in all three academic domains, whereas the control group remained consistently below this level. The experimental group exceeded the control group across academic domains (i.e., mathematics, reading, and language) from 0.5 to 1.4 grade equivalents.

The Use of ClassWide Peer Tutoring with Secondary Students

There is a considerable amount of research on the effects of CWPT in elementary school, but this method can also be used in high school and used

very effectively. In high school the inclusion model is also used for the students in the special education program. Given that many students with mildly developmental disabilities do not possess the adequate skills to read grade-level texts nor have they developed sufficient work-related habits to compensate for such skill deficits, it might be predicted that in a "content area" course (e.g., social studies, science, etc.) would be particularly troublesome. Maheady, Harper, and Sacca (1988) sites a report by Donahoe and Zigmond (1986) that almost 80% of all students with learning disabilities (LD) studied in nine urban high schools received grades of "D" or below in social studies. Seventy percent of these students earned "D" grades and below in science while 63% received comparable grades in health. Similar findings were reported elsewhere in 10th grade social studies classes.

These findings are disconcerting for a number of reasons. 1) They suggest that while students mild developmental disabilities may be "physically" mainstreamed into content area classes, they are actually learning very little in these courses. 2) The existing data base suggests that "content" area courses are simply another arena in which these students experience failure. Such failure may serve to reinforce the perceptions of students' with mild developmental disabilities of their own academic incompetence, as well as the perceptions of significant others, e.g., parents, teachers, and peers. 3) The chronically poor performance of students with mild developmental disabilities

in content areas courses suggest that few, if any, instructional modifications are being made for these students. Instead, it appears that the same basic skill deficiencies that limited their academic competence in the elementary grades continue to contribute to their problems in high school.

MaHeady et al. (1988) conducted a study in high school to answer the questions: a) how do we get secondary students with mild developmental disabilities actively involved in academic pursuits; b) how do we circumvent their substantial skill deficits, particularly in reading; and c) how do we ensure that they become academically successful? They developed weekly study guides for the students and CWPT was used only two days a week for 30 minutes per day. The authors report that CWPT resulted in an immediate and dramatic increase in weekly test scores. The gains in test scores ranged from 11 to 29 points above the baseline mean, and averaged 20 points over the five-week intervention period. Approximately one-third of the class earned "A"s. Grades below 60% (F's) were virtually eliminated. These results were almost too dramatic to believe so the teacher in this study withdrew CWPT and returned to baseline conditions. This resulted in a substantial drop in student performance with mean decreases ranging for 17 to 28 points with an average of 22.40 points. The reintroduction of CWPT during a later week resulted in substantial increases in test scores. Student gains ranged rom 13 to 23 points with an average mean increase of 17.04 points over the second baseline

period. Greenwood et al. (1993) reported similar results in one of their studies. Before CWPT was initiated the average spelling errors was 3.0 per week and that decreased to a mean of .5 errors per week when using the CWPT method of teaching.

Other Benefits of ClassWide Peer Tutoring

There are other benefits to using CWPT besides the academics involved. It is important to make school as enjoyable as possible as this will make for a better learning environment as well as less disciplinary problems. A group of students were asked to complete a questionnaire regarding CWPT. In general, students responded that they enjoyed CWPT. The majority of the students reported that they liked CWPT and that it should be used in classes other than just spelling. Some respondents had some negative feelings regarding CWPT, but most felt that this style of teaching treated them fairly and helped them learn the subject matter better. The same students indicated that there might be some unanticipated "social" benefits to using CWPT. Most students reported that others were friendlier towards them and treated them better following their involvement with CWPT (MaHeady et al. 1988).

King-Sears and Bradley (1995) reported that students who participated in CWPT not only made measurable gains academically, but also showed improvement in their attitudes toward subject matter and working together. In their study, more students enjoyed the content area (63% pretest to 97%

posttest) and believed that their competence in the subject matter improved (40% pretest to 73% posttest). Student's self-assessment of their ability is important because they are likely to experience greater academic gains when they believe they are capable of the task. This is especially true for students who are at-risk or have mild disabilities because they may incorrectly attribute failure with school tasks to their lack of ability

ClassWide Peer Tutoring with Students with ADHD

Some studies have been conducted employing CWPT with students with Attention Deficit Hyperactivity Disorder. Attention Deficit Hyperactivity Disorder (ADHD) is a behavioral syndrome wherein a child exhibits poor sustained attention, frequent impulsive behavior, and high activity level relative to same-aged peers (American Psychiatric Association, 1987) and it is estimated to occur in 3-5% of the school-aged population. Within the classroom settings, children with ADHD often exhibit rates of on-task behavior during instruction and independent work periods significantly lower than the normal population (Abikoff, Gittelman-Klein, & Klein, 1977). This may account for the association of ADHD with academic underachievement as between 40-80% of children with this disorder have been found to exhibit learning and/or achievement problems (DuPaul & Henningson, 1993).

Several properties of instruction have been found to enhance the attention span and academic performance of students with ADHD. 1) Tasks that require active response to academic material help to channel potentially disruptive behaviors into constructive responses. 2) Children with ADHD exhibit higher rates of appropriate responding when performance feedback is immediate and administered individually rather than delayed and delivered in a group setting. 3) Students with attention problems are more likely to succeed on academic tasks that are well-matched to their abilities and when instructed at their pace of learning. Successful instruction of students with ADHD should provide opportunities for active responding under conditions of frequent, immediate performance feedback using individualized academic content presented at a pace the student can control (Zentall & Meyer, 1987). Using CWPT with these students meets the three properties of ADHD. By being paired with another student to interact with all the time there is little time for disruptive behavior, there is immediate academic feedback which is individual and reinforcing for good work, and the student with the disability is well-matched regarding abilities and pace of learning.

DuPaul and Henningson (1993) conducted a study using CWPT with a seven year old boy who has ADHD and was in a general education classroom. The study showed a dramatic increase in on-task behavior and reduction in motor restlessness. There were five conclusions that came out of this study:

a) the teacher's time is used in a more efficient manner than teacher-mediated academic tutoring and/or contingency management programs. A readily available classroom resource (i.e., other classmates) is used to provide individualized instruction and ongoing performance feedback, thus freeing the teacher to structure and supervise the learning of the entire classroom; b) students and teachers typically report a high level of satisfaction with peer tutoring, presumably enhancing their compliance with prescribed procedures; c) CWPT can be used for instruction in a variety of academic subject areas in both elementary and secondary school settings; the use of CWPT prevents the potential social stigma that a child with ADHD might experience if a teacher-mediated behavioral program was instituted on an individual basis; d) similarly, the opportunity to provide tutoring to other students could positively impact the child's social functioning, e.g., encourage cooperative behavior, and self-esteem; and e) students without ADHD can profit from CWPT as the latter has been associated with improvements in the academic performance of both high and low functioning students.

A study was conducted to replicate the Maheady et al. (1988) study as well as to a) examine the effects of CWPT on the academic performance of students with behavioral disorders in a regular education history class and also, b) to examine the effects of CWPT on the highest, middle, and lowest performing strata of nondisabled students in the same classroom. The results

of the study show that by using CWPT the students with disabilities increased their test scores and lowered their variability of scores. The results show that by using CWPT the average test scores of the groups of students with behavioral disorders and the students without disabilities in the classroom were substantially higher. Another benefit that came from this study was that the students indicated that they recommended continuing CWPT and expand it to include other subject areas. The classroom teacher also expressed satisfaction with the CWPT program (Bell, Young, Blair, & Nelson, 1990).

ClassWide Peer Tutoring Used with Students with Emotional/ Behavioral Disorder

Due to the nature of some behavioral disabilities, CWPT results in the acquisition of facts in less time, so potentially there is more time available for other instructional components or objectives. Typically students with behavioral disorders are taught appropriate behavior in one setting and then placed into another, often with disappointing results. These failures may be due to several factors, including identifying the wrong skills to teach, applying contingencies inappropriately (i.e., noncontingently, at the wrong time, etc.) and failing to program for generalization. CWPT approach to integrating students with behavioral disorders provides several advantages.

1) The teacher can directly observe the target behaviors, antecedents, and consequences as they occur in regular classroom environments.

Skills necessary for success in regular classroom settings can be addressed directly and realistically instead of making up role plays.

2) The impact of instruction can be assessed first hand and instruction or contingencies modified as necessary.

3) The use of CWPT allows us to program for the natural community of reinforcers by structuring the most potent and natural reinforcers for adolescents' social interaction with peers (Bell, et al. 1990).

ClassWide Peer Tutoring Used with Students with Physical Disabilities

Looking at CWPT as useful and beneficial in general education classrooms, this approach must also be able to be used by students with physical disabilities as well (Franca, Kerr, Reitz, & Lambert, 1990). Many general education physical educators do not feel that they have the training or competence to deal with diversity in regular physical education, particularly when it means providing appropriate support and individualized education programs to students with disabilities (Block, Oberweiser, & Bain, 1995).

What general education physical education teachers need is a technique that can be used to help them adequately deal with the diversity seen in inclusive physical education programs. The CWPT technique may help to accommodate individual differences ranging from students who are very skilled to those with very limited skills. The technique must provide

quality instruction to all students including individualized instruction to students with disabilities. Quality instruction includes such factors as making sure all students are: experiencing high levels of success, particularly during the early phases of learning, working on skills geared to their individual abilities and needs, knowing exactly what they should be working on, receiving direct instructional cues, are given lots of practice targeted skills with instructional and reinforcing feedback (e.g., "good throw John, but this time try to step with your other foot"), on-going monitoring or assessment of progress (Delquadri, Greenwood, Whorton, Carta, & Hall, 1986). Even planning for the worst of times, given budgetary cutback and larger class enrollments, such a technique might be easy-to-administer and cost effective if it is to be used by general education physical educators (Block, Oberweiser, & Bain, 1995).

Chapter 3

CONCLUSION

The increase in diversity in today's classrooms is generating the need for more individualized instruction. Given the variety of methods that can be used within heterogeneous and inclusive classrooms, it is important that those methods benefit students with learning and behavior problems, students at-risk, typical students, and students who are gifted. In short, methods need to work well for all students and allow educators the latitude for individualization. CWPT provides an instructional strategy geared to each individual's academic level while simultaneously maintaining total student involvement in the learning process. Another benefit to this teaching/learning method is that classroom-based evaluation has demonstrated that CWPT produces positive changes in academic achievement as well as attitude (King-Sears & Bradley, 1995). CWPT has great benefit for students with mental disabilities (LD and MMI), but there are other disabilities that include Attention Deficit Hyperactivity Disorder as well as Behavioral Disorders which children have and these students benefit from CWPT as well. CWPT has a solid research based

foundation. This teaching/learning method has proven to be an effective method of teaching/learning.

The present writer, after doing much of the research on this method, tried it in his classroom and found everything that has been claimed and shown in the research to be true in his classroom. The students were attentive, eager to use the method, and learn the material that was presented.

More research will be conducted on this teaching/learning method to look at different areas of effectiveness, but given the extensive research already conducted and the conclusions reached, there is no need to question the foundation of this method. Given the extensive research that has been done on CWPT and the proven results, this method should be taught in methods classes in both general education courses for future teachers as well as in methods classes for future special education teachers. CWPT should be offered to all present general education teachers also. It is not often that a teaching/learning method is developed that is applicable for all classes and all students and is easy to learn and use. CWPT method meets all these criteria and is rather easy and inexpensive to implement. It is good for the students and this is who education is for.

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