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**THE EFFECT OF CLASSWIDE PEER TUTORING ON THE ACADEMIC  
PERFORMANCE AND CRITICAL THINKING OF STUDENTS WITH  
LEARNING DISABILITIES IN AN URBAN MIDDLE SCHOOL INCLUSION  
SOCIAL STUDIES CLASSROOM**

by

Andrew R. Goulburn

A Thesis

Submitted to the  
Department of Interdisciplinary and Inclusive Education  
College of Education  
In partial fulfillment of the requirement  
For the degree of  
Master of Arts in Special Education  
at  
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April 25, 2017

Thesis Chair: Amy Accardo, Ph.D.



## **Dedication**

I would like to dedicate this manuscript to my two beautiful daughters, Evie Leigh Goulburn and Aurora Elliott Goulburn. You are the sunshine of my world.

## **Acknowledgement**

I would like to extend my gratitude to Professor Amy Accardo, Ed..D. for her guidance, support and patience throughout this process. The skills that I have learned will guide me to push my career to further levels. Thanks to everyone who had to put up with me during this sometimes stressful process.

## **Abstract**

Andrew Goulburn

THE EFFECT OF CLASSWIDE PEER TUTORING ON THE ACADEMIC  
PERFORMANCE AND CRITICAL THINKING OF STUDENTS WITH LEARNING  
DISABILITIES IN AN URBAN MIDDLE SCHOOL INCLUSION SOCIAL STUDIES  
CLASSROOM

2016-17

Amy Accardo, Ed.D.

Master of Arts in Special Education

This single subject study utilized an ABAB design to investigate the effect of Classwide Peer Tutoring (CWPT) on vocabulary acquisition and critical thinking. Three special education students in an urban middle school social studies classroom participated in the study. During the intervention phases of this ten week study, students participated in CWPT sessions prior to taking ten questions quizzes consisting of eight vocabulary and two critical thinking questions. Students took turns performing the roles of tutor and tutee. The results of the present study demonstrated small growth in the group means for both vocabulary and critical thinking. Individual results varied with two of the three participants showing growth in the area of vocabulary acquisition from baseline to intervention phases. One participant showed consistent results across baseline and intervention phases. In the area of critical thinking, overall group means showed minor increases in critical thinking scores. Individual results were mixed, with only one of the three subjects showing consistent growth from baseline to intervention phases. The results for the other two participants were mixed and did not demonstrate a strong correlation between CWPT and an increase in critical thinking scores. Student satisfaction surveys showed a high level of satisfaction with the CWPT process.

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## **Chapter 1**

### **Introduction**

Since the creation of the Education for All Handicapped Children Act of 1975 (Public Law 94-142), establishing access to a free and appropriate education in the least restrictive environment (LRE), a more heterogeneous blend of student populations is given access to the general education curriculum (Voltz, 2006). This has led to a variety of placement options including but not limited to inclusion classrooms, resource room, general education classrooms, and separate classrooms (Murphy, 1996).

As general education teachers are presented with more diverse learners in the classroom, what strategies should they utilize to address the different learning preferences and ability levels within their classrooms? Classwide Peer Tutoring (CWPT) offers a research based strategy (Greenwood, 1997) that has the potential to increase the academic achievement of students with disabilities in the subject area of social studies (Scruggs, Mastropieri, & Marshak, 2012; Kamps et al., 2008; Lo & Cartledge, 2004; Arreaga-Mayer, 1998).

### **Statement of the Problem**

The inclusion classroom is a staple of an integrated, 21<sup>st</sup> century school. As per the Education for All Handicapped Children Act of 1975, and reinforced by the Individuals with Disabilities Education Act (2004), students with disabilities require placement in the LRE, and for a growing number of students with learning disabilities, this means placement in an inclusion setting. As more students are placed into the inclusion setting, teachers must develop a variety of strategies to address the diverse

learners in their classrooms (McFarland, 1998). Many of these students are classified as learning disabled; a term for a range of disabilities including struggles with reading, writing, and spelling (McFarland, 1998). It is important that strategies are developed to address the learning needs of an inclusion classroom, strategies which will often be beneficial for all of the students in the classroom, general education and students with disabilities (Minarik & Lintner, 2011). The use of CWPT has been shown to increase the academic achievement of students with disabilities and general education students (Arreaga-Mayer, 1998; Greenwood, Delquadri, & Hall, 1989; Maheady, Sacca, & Harper, 1987).

Outside of the challenge of developing strategies for students with disabilities, it is also important to consider the environmental concerns associated with many urban school districts. The effect of low socioeconomic status (SES) should be considered when adapting instruction for students with learning disabilities and their non-disabled peers (Jensen, 2009). Low SES has been linked to emotional and social challenges, elevated stress levels, health issues and cognitive delays (Jensen, 2009). Low SES can have a significant impact on academic achievement, which can be the result of both limited resources and the overall environment's effect on learning (Sirin, 2005). Sirin states that individuals from low SES backgrounds also face an increased likelihood of attending a school with possibly inadequate funding, leading to a connection between wealth and academic achievement.

In a study of elementary aged students, Caldwell and Ginther (1996) found that the academic achievement of individuals from low SES backgrounds was more

connected to internal motivation than to external environmental factors. They suggest that a learning environment structured to help foster internal motivation and promote active participation may be beneficial for low SES students; furthermore, instructional strategies that encourage the active participation of students may increase motivation and academic achievement. CWPT offers educators a means of adapting instruction, which may provide a more interactive learning experience (Bowman-Perrott, 2009; Maheady et al., 1987), as well as increased student participation and active engagement (DuPaul, Ervin, Hook, & McGoey, 1998; Greenwood, 1997; Maheady et al., 1987; Delquadri, Greenwood, Whorton, Carta, & Hall, 1986). While active participation and student motivation may be of increased importance for low SES students, all students can benefit from engagement in learning activities at an appropriate skill level (Brophy, 1986).

While educators should be cognizant of the effect of low SES on academic achievement, it should not be used as an excuse for lowering expectations of student achievement and classroom behavior (Willingham, 2012). One manner in which educators can help low SES students is to fill in the gaps of knowledge or experience, which may be lacking in a low SES home, such as proper socialization with peers and adults (Willingham, 2012). CWPT has the potential to create opportunities for positive social interaction between students (Greenwood, 1997; Bowman-Perrott, 2009).

Utilizing a research based practice has been shown to be effective for students from a low SES background (Greenwood et al., 1989), and CWPT provides a research based strategy for promoting academic success (Greenwood, 1997). Additionally, CWPT has the benefit of being applicable with existing classroom materials (Mastropieri, Scruggs, Spencer, &

Fontana, 2003; Maheady et al., 1987), which could makes CWPT potentially attractive to school districts with limited resources.

### **Significance of the Study**

CWPT has been studied extensively at the elementary level (e.g. Plumer & Stoner, 2005; Burks, 2004; Lo & Cartledge, 2004; DuPaul et al., 1998; Vadasy, Jenkins, Antil, Phillips, & Pool, 1997), however there is a gap in research on CWPT at the secondary level, or in specific school content areas. Much research has been done on the effectiveness of CWPT on spelling (Bowman-Perrott, Greenwood, & Tapia, 2007; Burks, 2004; DuPaul et al., 1998; Delquadri, Greenwood, Stretton & Hall, 1983), mathematics (DuPaul et al., 1998; Allsopp, 1997; DuPaul & Henningson, 1993; Fantuzzo, King, & Heller, 1992; Maheady et al., 1987) and reading (Vadasy, Jenkins, & Antil, 1997; Scruggs & Osguthorpe, 1986). Few studies have addressed the efficacy of CWPT in social studies (Scruggs et al., 2012; Kamps et al., 2008; Lo & Cartledge, 2004), yet CWPT may provide a successful strategy for secondary social studies teachers.

By investigating the effect of CWPT on academic achievement and critical thinking in social studies in a middle school inclusion classroom, this study will investigate several areas in which there have been recommendations for further research. These areas include additional subject areas (Mastropieri et al., 2006; Maheady et al., 1987), inclusive secondary classrooms (Scruggs et al., 2012), more academically challenging questions (Lo & Cartledge, 2004; DuPaul et al., 1998; Allsopp, 1997) and students with disabilities in the secondary setting (Stenhoff & Lignugaris/Kraft, 2007).

Lintner and Schweder (2008) observed a lack of successful strategies in use for students with disabilities in the social studies classroom, possibly contributing to the reasons why social studies represents a subject area in which students with disabilities often struggle with academic achievement (Passe & Beattie, 1994; Maheady et al., 1987). CWPT is a possible strategy to assist students with disabilities in learning social studies content, with the potential to lead to academic gains (Scruggs et al., 2012).

### **Purpose of the Study**

The purpose of this study is to measure the effectiveness of CWPT on social studies quiz scores and the critical thinking of students with disabilities in an inclusion social studies classroom. The goals of this study are (a) to assess the effect of CWPT on the vocabulary quiz scores of students with disabilities, and (b) to identify the effectiveness of CWPT in teaching critical thinking skills, specifically the ability to state a claim with relevant supporting details.

### **Research Questions**

1. Will CWPT affect the quiz scores of students with learning disabilities in an eighth grade inclusion social studies classroom?
2. Will CWPT affect performance of students with learning disabilities on critical thinking questions in an eighth grade inclusion social studies classroom?
3. Will students with learning disabilities be satisfied with the use of CWPT?

## **Chapter 2**

### **Review of the Literature**

One of the greatest challenges for educators is ensuring the active involvement of all students in the class (Maheady et al., 1987). According to DuPaul et al. (1998) and Greenwood (1997), CWPT is an effective tool for increasing active student engagement. In order for students to learn, they must be engaged in the learning process. In a heterogeneous inclusion classroom, the challenge of active engagement increases with the presence of a multitude of academic skill sets (Allsopp, 1997). IDEA (2004) requires that students with disabilities gain access to the general education classroom, and general education curriculum (Stenhoff & Lignugaris/Kraft, 2007).

CWPT is a potentially effective strategy for at-risk students and students with learning disabilities (Allsopp, 1997), and has demonstrated the possibility of increasing whole class performance on assessments (Maheady Harper & Mallette, 2001). Having been successfully implemented in mainstreamed, resource room, self-contained, learning disabled, intellectually disabled, and behaviorally disordered classrooms, CWPT presents an effective strategy for reaching all students in a multitude of settings (Delquadri et al., 1986).

#### **Inclusion Classrooms and Student Needs**

Originally proposed in the Education for all Handicapped Children Act (1975), and further developed in the Individuals with Disabilities Education Act (2004), the least restrictive environment (LRE) component states that a student is placed in the general education setting to the maximum extent appropriate. IDEA has led to a push towards



inclusion classrooms, ensuring individuals with disabilities access to the general education curriculum (Council for Exceptional Children, 1998). The individuals who receive an education in an inclusion setting can include gifted students, regular education students, special education students, and students at-risk (McFarland, 1998). In summary, all students with disabilities should be educated with their non-disabled peers in an inclusive environment (Obiakor, Harris, Mutua, Rotatori & Algozzine, 2012), and their inclusion should occur regardless of the nature of the individual's disabilities or the challenges that their presence in the general education classroom may present (King, 2003).

The introduction of LRE legislation led to the mainstreaming of many students with disabilities, especially those with learning disabilities into the general education classroom (Mastropieri & Scruggs, 2001). The term learning disabilities covers an array of neurological differences including but not limited to reading, writing, spelling and mathematics (McFarland, 1998). The inclusion of special needs students presents a challenge for educators as they seek to reassess issues such as the rigor of academic instruction, lesson pacing, and the impact that special needs students may have on high stakes testing (Mastropieri & Scruggs, 2001). Many students with learning disabilities however, have never demonstrated success in the general education classroom and require a more specialized learning environment; a learning environment in which individual differences and learning preferences, alternative assessments and instructional methods are all given careful consideration (King, 2003).

An inclusive classroom must consider the general academic skills, often taken for granted, and teach individuals with disabilities skills that may not have been considered in a non-inclusive, general education classroom (Voltz, Sims, Nelson & Bivins, 2008). In addition, many students receiving instruction in an inclusive classroom may require assistance with the organization of information and classroom documents, as well as strategies for retaining subject area content, skills often not addressed by following general curriculum content (Voltz et al. 2008).

Individualized Education Plans (IEPs) cover not only academic needs but also social skills, such as the socialization of individuals with disabilities (Odom, Buysse & Soukakou, 2011). As more students with disabilities are placed into the inclusion setting, it becomes important for schools and classrooms to incorporate all students into the learning environment, and to address socialization and positive peer interaction (Obiakor et al., 2012). The general education classroom does not always address the social needs of students with disabilities (Williams & Reisberg, 2003). Williams and Reisberg (2003) state that incorporating positive behavioral supports into the general curriculum may assist with building a positive classroom environment.

In the 1990's, researchers focused on the impact of the presence of individuals with disabilities in the general education classroom and how inclusion affected the academic performance of students without disabilities (Salend & Duhaney, 1999; Hollowood, Salisbury, Rainforth & Palombaro, 1994). While the impact of inclusion practices has produced mixed results for the individuals with disabilities receiving services within those classrooms, there does not appear to be any negative side effects for

their non-disabled classmates (Salend & Duhaney, 1999). For example, Hollowood et al. (1994) investigated the use of teacher and student time in an inclusive elementary school servicing students with mild to severe disabilities and found that the presence of learning disabled children did not affect the amount of time spent on instruction, nor did it negatively influence the level of student engagement.

Salend and Duhaney (1999) corroborated this finding in a literature review on inclusion practices. Salend and Duhaney (1999) report that individuals with disabilities do not impact the amount of engaged instructional time, test scores or the overall academic performance of their non-disabled peers, and that students without disabilities may benefit from placement in an inclusion classroom by gaining an increased sense of acceptance and tolerance. Additionally, Salend and Duhaney (1999) report that inclusion provides social benefits for disabled and non-disabled students alike.

It is important for teachers to develop strategies to address the diverse learning needs and preferences of all students in their inclusion classroom (McFarland, 1998; Bucalos & Lingo, 2005). Strategies may include peer tutoring, differentiated instruction, and general classroom accommodations (McDonnell, Mathot-Buckner, Thorson, & Fister, 2001). Differentiated instruction involves appreciating the different learning preferences and abilities of students, presenting different options for assignments, varying the presentation of information and allowing students to work collaboratively (Tomlinson & Kalbfleisch, 1998). The concept of differentiated instruction takes into account brain research and strays from a static teaching method in favor of teaching that addresses the individual learning differences present in the classroom (Tomlinson & Kalbfleisch,

1998). A further benefit of the use of differentiated instruction is that utilizing lessons addressing different learning preferences is an effective practice that should benefit not only individuals with disabilities, but all students in the classroom (Minarik & Lintner, 2011).

The diversity of learning preferences in an inclusion classroom may be addressed by a research-based strategy like CWPT, which offers opportunities for increased engagement of all students (Greenwood & Delquadri, 1995). CWPT offers the possibility of differentiating instruction within individual student groupings, in an environment that can be easily monitored by teachers (Bucalos & Lingo, 2005). Bucalos and Lingo (2005) state that the use of research-based strategies by teachers in inclusion classrooms is an important step towards ensuring that the learning preferences of students with disabilities are considered and that differentiated instruction is provided as needed.

### **Classwide Peer Tutoring**

Simply being placed in an inclusion classroom will not help students with disabilities overcome their challenges with learning, what is most important is that the students are provided with instruction utilizing evidence-based practices that promote the success of each student as an individual (Obiakor et al. 2012).

One strategy that may provide increased opportunity and a more interactive learning experience for students in inclusion classrooms is peer tutoring (McDonnell et al. 2001). McDonnell et al. (2001) investigated the impact of CWPT on students with moderate and severe disabilities, across multiple subject areas in general junior high school classes. McDonnell et al. (2001) utilized a multiple probe across subject design to

gauge the effectiveness of CWPT for students with and without disabilities. Following the baseline period, students participated in CWPT in pre-algebra, gym, and history classes. The results suggest that CWPT can improve academic responding, and may provide a more interactive learning experience for all students.

CWPT, developed by two researchers Joseph Delquadri and Charles Greenwood, and an elementary school teacher, Kathleen Stretton, aims to improve instruction for urban minority students and individuals with disabilities (Greenwood, 1997; Delquadri et al. 1986). The focus of much of the early research was on discrete content areas such as spelling, reading, and basic math facts (Allsopp, 1997; Scruggs & Osguthorpe, 1986, Delquadri, Greenwood, Stretton & Hall, 1983). CWPT may lead to a multitude of instructional benefits for students, such as greater engagement and opportunities for response, one on one interaction, positive social interactions with classmates, and increased opportunities for error correction (Bowman-Perrott, 2009).

During CWPT, students may work with partners or in small groups, a byproduct of which is that non-classified students obtain the added benefit of learning to work with a more diverse population (McFarland, 1998). The use of classroom peers may yield successful results in an inclusion classroom (Mastropieri & Scruggs, 2001).

Student engagement is a critical component of the learning process (Brophy, 1986). One of the most potentially beneficial aspects of CWPT is the increased opportunity for student response and student engagement (Greenwood & Delquadri, 1995), which in turn provides greater opportunities for growth in academic success (DuPaul et al., 1998). Greenwood and Delquadri (1995) found that CWPT, when used as

a differentiated teaching method, has strong potential for increasing active student engagement. Increasing both time on task and active student engagement suggests that CWPT can be a very useful tool for educators (Arreaga-Mayer, 1998).

Furthermore, CWPT has been used effectively to increase student academic skills. Various studies (Burks, 2004; Greenwood et al., 1989; Delquadri et al. 1983) have demonstrated the potential of success when CWPT is applied to teaching spelling. For example, Burks (2004) investigated the effects of CWPT on students with learning disabilities in the areas of reading and writing. Utilizing an ABAB design, Burks (2004) examined the effect of CWPT on the number of words spelled correctly. The three participating students all showed academic growth while the CWPT intervention was in place. Burks (2004) concludes that the use of CWPT may yield positive results in the area of spelling for students with learning disabilities.

CWPT has also shown potential in teaching reading strategies and improving literacy levels (Fuchs, Fuchs & Kazdan, 1999; Fuchs, Fuchs, Mathes and Simmons, 1997) as well as skills in mathematics (Allsopp, 1997; DuPaul & Henningson, 1993; Maheady et al., 1987). Utilizing a hybrid form of CWPT known as Peer-assisted Learning Strategies (PALS), Fuchs et al. (1999) examined the effect of PALS for high school special education classes. The investigation focused on the reading comprehension skills of students in eighteen special education classrooms across ten high schools. While the results were mixed, there was some evidence suggesting that PALS showed potential for increasing reading comprehension skills. Fuchs et al. (1999)

suggest that PALS may offer greater results for high school students reading between a second and sixth grade level when compared to traditional classroom instruction.

In a study conducted in heterogeneous middle school math classrooms, Allsopp (1997) found that the use of CWPT for teaching algebra problem solving skills yielded mixed results. His findings suggest that CWPT is of equal effectiveness as independent practice. Allsopp (1997) also found that CWPT was effective in teaching higher order problem-solving skills.

CWPT has been successfully practiced in a variety of classroom settings (Delquadri et al. 1986), is easy to put into practice (Arreaga-Mayer, 1998), and may be implemented using the existing classroom curriculum and curricular materials (Maheady et al. 2001). Basic CWPT procedures involve organizing the class into tutor-tutee student pairs, and dividing the class into two teams, with each team able to earn points by correctly answering questions or successfully carrying out the tutoring procedure (Greenwood, 1997). CWPT is generally carried out in thirty minute blocks, with each student receiving ten minutes of tutoring time and five to ten minutes to review individual and team scoring (Delquadri et al. 1986). The team component of CWPT allows for individual and group accountability, an important component of cooperative learning (Slavin, 1988). According to Slavin (1988), the presence of team goals helps with the cooperative learning experience by making the students dependent upon one another for success.

Student pairings may be selected by ranking the class in terms of the skill to be assessed, then dividing the list in half and pairing the top performing student with the top

low performing student, the second highest performing student is paired with the second lowest performing student and so on (Hott, Walker & Sahni, 2012; Fuchs et al. 1999). It is important that teachers have clearly established and modeled each step of the tutoring process and that both tutors and tutees have clearly defined roles and expectations; this includes how to provide feedback, correcting answers, keeping students on task and providing praise (Hott et al., 2012). This type of reciprocal, mutually beneficial tutoring arrangement, not only helps the lower performing students, but also can lead to increased academic success for general education students (Boudouris, 2005).

The placement of students with disabilities within student pairings should also be considered; Mastropieri, Scruggs, and Berekeley (2007) suggest only having one special needs student in a group. However, in a study by et al. (2003), results suggested that CWPT could be successful, even if both members of the tutoring dyad were students with disabilities.

Successfully following CWPT procedures may lead to a situation in which the structure of the activity increases student responses, enables students to supervise each other and allows the teacher to provide a more supportive and supervisory role (Delquadri et al. 1986; Delquadri et al. 1983). It is also important that each student complete the role of both tutor and tutee (Kamps, Barbetta, Leonard, & Delquadri, 1994).

CWPT has also demonstrated success in increasing the positive social interactions of students with disabilities (Bowman-Perrott et al., 2007). A study conducted by Bowman-Perrot et al., (2007) investigated the effects of CWPT on secondary level students with emotional disorder in smaller classrooms in an alternative setting. The



study measured on-task behavior in addition to student academic progress using pre and posttests in biology and spelling. The participants in the study showed increases in their on-task behavior. Specifically, increased positive social interactions were noted as students were observed complimenting each other, even outside of the CWPT procedure. Bowman-Perrot et al., (2007) found mixed academic results, with middle school students showing greater gains than high school students.

Plumer and Stoner (2005) identified conflicting results in a study investigating the effect of CWPT on the positive social behaviors of three elementary students with attention deficit hyperactivity disorder (ADHD). During the CWPT condition, tutor and tutee pairs reviewed spelling words for twenty to twenty-five minutes per day. The class was divided into two teams, and points were awarded based for the tutee correctly spelling a word or by correctly replicating a corrected response three times. The losing team applauded the winning team, and then the winning team applauded the losing team. CWPT was then combined with peer coaching where students identified a daily behavioral goal to be monitored by their peer coach. The study showed mixed results. While the CWPT program was implemented, there were no observed increases in positive social behaviors. Plumer and Stoner (2005) found that when CWPT was combined with a peer-coaching component, students showed an increase in their positive social behaviors.

Conflicting results for on-task behavior were found in a study by DuPaul and Henningson (1993). DuPaul and Henningson (1993) studied the effect of CWPT on a student with ADHD. While observing the effect of CWPT on math probes and on-task

behavior, DuPaul and Henningson (1993) used an ABAB reversal study design to implement the CWPT intervention. Utilizing curriculum-based measurements to assess academic improvement, the student subject showed gains in his academic performance during both of the intervention periods, with only a small drop off during the second baseline period. Additionally, DuPaul and Henningson (1993) examined the effect of CWPT on ADHD related behavior using a thirty-second partial interval coding system. The results of the ADHD behavior probe showed significant increases in on-task behavior.

### **Classwide Peer Tutoring in the Secondary Setting**

Several researchers (Scruggs et al., 2012; Stenhoff & Lignugaris/Kraft, 2007; Mastropieri et al. 2006) have called for research to investigate the impact of CWPT in the high school classroom. Furthermore, there remains little evidence on the effectiveness of CWPT as it relates to specific academic content areas for secondary students (Bowman-Perrott et al., 2007). Numerous researchers have called for additional research investigating the applications of CWPT to higher level questioning, thinking skills and comprehension based materials (Maheady & Gard, 2010; Lo & Cartledge, 2004; DuPaul et al. 1998; Allsopp, 1997). In terms of academic content areas, Maheady et al. (2001), suggests that peer-assisted instructional methods such as CWPT may be best applied to more discrete academic skills and factual knowledge.

Research has also been conducted on CWPT for middle school and high school aged students (e.g. Scruggs et al., 2012; Kamps et al. 2008; Bowman-Perrott et al., 2007; Mastropieri, Scruggs, Norland, Berkeley, McDuffie, Tornquist & Connors, 2006; Lo &

Cartledge, 2004). Because it is becoming more and more common for students with disabilities to be serviced in general education settings at the secondary level, research is needed to further investigate strategies to ensure academic achievement for all students (Mastropieri & Scruggs, 2001).

Bowman-Perrot et al., (2007) investigated the effects of CWPT on secondary level students with emotional and behavioral disorders in smaller classrooms in an alternative school setting. Their research consisted of two studies. The first study used a single subject research design and investigated the use of CWPT amongst high school students in a biology classroom. The second study used an alternating treatment design, and took place in a middle school. The use of CWPT in conjunction with class-wide self-management (CWSM) in the area of spelling was investigated. Student progress was measured using pre and post-tests in biology and spelling, as well as on-task behavior. In the CWPT and CWSM condition, students were able to earn citizenship points for working well with their peers.

The results were mixed; the middle school students showed more academic and on-task behavior gains than the high school students. Bowman-Perrot et al., (2007) observed that the combined CWPT and CWSM condition yielded more successful results in increasing positive social behaviors. Students were observed complimenting each other, even outside of the CWPT and CWSM experimental condition.

In a literature review of twenty articles on peer tutoring research, Stenhoff and Lignugaris/Kraft (2007) concluded that peer tutoring in the secondary setting might result in improved academic performance for students with mild disabilities. Stenhoff and

Lignugaris/Kraft (2007) observed that more research is needed on the effects of peer tutoring on students with disabilities in the secondary setting.

Kamps et al. (2008) conducted a three-year study with nine-hundred and seventy-five middle school students in grades six through eight. Students were measured on weekly content quizzes in reading, social studies and science, utilizing vocabulary and comprehension based questions. On-task data was collected through observation and code for instructional structure and student academic response (CISSAR) observations. The CISSAR observation measured the occurrence of peer tutoring, the teacher's use of praise and reprimand, as well as teaching behaviors. CWPT was used independently and in conjunction with a lottery system to decrease disruptive behaviors. The results indicate that CWPT had positive effects for social studies and reading content, however minimal and in one case negative gains were observed in relation to science content. A significant finding of the study was that CWPT was especially effective for the lower performing students. Kamps et al. (2008) suggest that CWPT may be a successful strategy for middle school settings, however, in two special education classrooms low fidelity ratings were scored, indicating a need for future studies.

Mastropieri et al. (2006) found conflicting results for science instruction in a twelve-week study of two-hundred and thirteen students, including forty-four students with disabilities in middle school science classrooms, Mastropieri et al. (2006) compared the use of CWPT using differentiated hands on instruction with teacher directed instruction. Teacher-led instruction was identical across the control and experimental conditions. In the experimental condition, the time normally devoted to worksheet

completion was utilized for peer assisted learning. Student dyads in the experimental condition worked cooperatively on differentiated science activities.

The results demonstrated that CWPT, combined with differentiated instruction may lead to academic gains on unit tests and state high-stakes tests. Mastropieri et al. (2006) suggest that peer-assisted learning may lead to greater academic gains than may be achieved through traditional instruction.

Mastropieri, Scruggs, Mohler, Beranek, Spencer, Boon, and Talbott (2001) conducted a study investigating the use of peer tutoring amongst twenty-four middle school students with disabilities. After reviewing and modeling the tutoring protocol, students completed oral reading and summarization strategies using CWPT. Tutors were responsible for identifying incorrectly read words during oral reading. During summarizations, tutors would ask restatement and summarization questions. Students within the experimental peer tutoring condition showed higher academic gains when compared to the control group. Mastropieri et al. (2001) suggest that the results support the efficacy of peer tutoring in a middle school special education environment.

As students progress through the secondary grade levels, teachers spend less time providing instruction in reading (Mastropieri et al., 2003; Mastropieri et al., 2001; Fuchs, et al. 1999). In contrast, teachers expect that students will have the necessary skills and background knowledge to perform grade level academic tasks (Mastropieri & Scruggs, 2001). Mastropieri et al. (2001), note that although reading is a critical and necessary skill, secondary level teachers do not devote much time to teaching reading strategies. CWPT is a research-based practice that may help students in the area of reading as it

allows for higher levels of engagement (Greenwood & Delquadri, 1995) and one on one attention (Maheady et al. 2001).

Given the challenges presented to educators in inclusive secondary classrooms, CWPT, as it has demonstrated positive results in secondary settings (Stenhoff & Lignugaris/Kraft, 2007), may be considered as a potential strategy to help reach all learners (Mastropieri et al, 2003). In a study on the attitude and opinions of secondary history teachers, van Hover and Yeager (2003) found that many teachers utilized lecture and whole class instruction, strategies that are generally not beneficial for students with disabilities.

Research suggests that CWPT can assist students in areas of passage reading and reading comprehension (Arreaga-Mayer, 1998; Fuchs et al. 1997). CWPT has been reported as effective, even when students use texts two or three grade levels above their reading ability (Delquadri, et al., 1986). Since the textbooks within many secondary level classrooms are often at a higher reading level than that of some students with disabilities (Mastropieri et al. 2003), the opportunity for peer tutoring presents potential benefits for struggling readers.

### **Classwide Peer Tutoring and Social Studies**

There is a growing body of research supporting the benefits of CWPT in the social studies classroom (Scruggs et al., 2012; Kamps et al. 2008; Lo & Cartledge, 2004; Mastropieri et al. 2003; Greenwood, 1993). Mastropieri and Scruggs (2001) reviewed the literature on CWPT and found that while the use of peer tutoring in secondary level

classes has had mixed results, peer tutoring in world history classrooms has shown positive outcomes.

In an eighteen-week study including one-hundred and thirty-three general education students and twenty-one students with disabilities, Scruggs et al. (2012) investigated the use of CWPT in middle school social studies classes. Their research compared the use of CWPT with traditional instruction. In the experimental CWPT condition, time usually spent on independent assignments was devoted to the use of CWPT. During CWPT sessions, students took turns quizzing each other using index cards with pre-identified social studies information.

Scruggs et al. (2012) reported positive results; students, regardless of disabilities, who received CWPT showed greater academic gains than students in the traditional instruction classrooms. A significant finding of the study was that students with disabilities and general education students scored very closely on the posttest in the CWPT condition. Scruggs et al. (2012) observed that the CWPT materials were easily developed and did not require much time from the teacher.

Maheady, Sacca and Harper (1988) found similar results in a study on the use of CWPT in three tenth grade social studies classrooms. Fourteen mildly handicapped and thirty-six general education students participated in the study. Utilizing a multiple baseline design, Maheady et al. (1988) analyzed the effect of CWPT on the percentage of correct answers on social studies quizzes. During the CWPT intervention, students participate in twenty or thirty-minute tutoring sessions two to three times per week. The classes were divided into two teams, with each team able to earn points for correct

responses during tutoring, or when the tutor corrected an incorrect response, and for correct answers on the weekly quiz. Bonus points were also earned for properly carrying out the tutoring procedure. Student dyads took turns quizzing each other using thirty question study guides. After the weekly quiz, team points were tallied and the winning team had their names placed in the weekly school bulletin.

The results of the study showed increases in the percentage of correct answers on the weekly social studies quizzes for both students with disabilities and their non-disabled peers. Maheady et al. (1988) also found that both teachers and students enjoyed CWPT and the results of the tutoring process. A significant finding of the study was that the mildly handicapped students were able to perform well despite the materials not being individualized.

Lo and Cartledge (2004) investigated the effect of a hybrid form of CWPT, total class peer tutoring (TCPT) and TCPT with group oriented contingency (GOC) on the social studies performance and on-task behavior in an urban fourth grade elementary classroom. Social studies performance was measured using daily quizzes. During the TCPT condition, students were organized into groups of three or four to preview the questions and ensure that group members could fluently read the questions and answers. Student dyads were then formed and the students took turns performing the tutor and tutee roles, correcting incorrect responses. Students were given verbal praise by their partner and the teacher for on-task behavior or for properly performing tutoring behavior. During the CWPT and GOC condition, students earned individual points of correct answers on quizzes and during the tutoring process. The point totals of the entire class



were combined and when the class reached a goal, they received a reward. Seven of the eight subjects improved their social studies performance and on task behavior. Lo and Cartledge (2004) also found that students were able to apply the fact-based information from the tutoring flash cards and apply it to higher order thinking tasks.

Mastropieri et al. (2003) compared the use of two instructional strategies, guided notes versus peer tutoring amongst sixteen students with mild disabilities in high school world history class. Students in the peer tutoring condition focused on correcting oral reading errors and summarization strategies. In the guided notes condition, after teacher led instruction and classwide oral reading, students were given guided notes to complete independently. The findings show that students in the peer tutoring condition outperformed those in the guided notes condition. Mastropieri et al. (2003) report that peer tutoring might provide the means to increase critical thinking skills, even if both members of a tutoring dyad are students with disabilities.

Furthermore, Swanson et al. (2015) conducted a study observing the reading and vocabulary instruction practices used within eleven social studies and nine language arts classes at the middle and high school level, Swanson et al. (2015) found that only 20.3% of social studies classes discussed comprehension strategies. This finding corroborates the idea that secondary teachers assume that students come to their class with the prerequisite skills to perform academic tasks (Mastropieri et al. 2003). CWPT has the potential to increase reading comprehension and fluency in the area of social studies (Arreaga-Mayer, 1998, Kamps et al., 1994).

In an exploratory study in which twelve teachers were interviewed to discuss their thoughts on the inclusion of students with disabilities in the general social studies curriculum, van Hover and Yeager (2003) found that many social studies teachers were poorly prepared for instructing students with disabilities. The researchers identified teachers exhibiting poor preparation including a lack of differentiation, scaffolding and adaptations, and inefficient teaching methods for students with disabilities, such as lectures and whole class instruction (van Hover & Yeager, 2003). Van Hover and Yeager (2003) suggest that there is a need for further development of inclusion practices in social studies classrooms. Cooperative learning is one strategy with the potential to increase the success of social studies inclusion classrooms (Mastropieri & Scruggs, 2001).

### **Summary**

CWPT is a strategy with the potential to help educators actively engage their students (Fuchs et al. 1999), raise the level of one on one attention (Bowman-Perrott, 1999), and potentially increase the opportunity for educators to reach all students (Mastropieri et al. 2003). The potential benefits of CWPT include: increased opportunities for error correction (Bowman-Perrot, 2009), positive social interactions (Bowman-Perrot, 2009; Salend & Duhaney, 1999), o reading time (Mastropieri et al., 2001) and reading comprehension and fluency (Arreaga-Mayer, 1998, Kamps et al., 1994).

Research studies have demonstrated the potential success of CWPT when applied to teaching social studies (e.g. Scruggs et al., 2012; Kamps et al. 2008; Lo & Cartledge, 2004; Mastropieri et al. 2003; Greenwood, 1993). This study builds on the research by

addressing several areas of concern emerging from the review of the literature, including the need to investigate CWPT in additional subject areas (Mastropieri et al., 2006; Maheady et al., 1987), in inclusive secondary classrooms (Scruggs et al., 2012), with higher level questions (Lo & Cartledge, 2004; DuPaul et al., 1998; Allsopp, 1997) and with students with disabilities in the secondary setting (Stenhoff & Lignugaris/Kraft, 2007). CWPT may also provide instruction in aspects of social studies that many students with disabilities struggle with such as reading social studies textbooks for comprehension (Dull & Van Garderen, 2005), and learning complex vocabulary (Steele, 2008), in addition to the subject matter content (Steele, 2008; Passe & Beattie, 1994; Maheady et al., 1988). The purpose of this study is to measure the effectiveness of CWPT on the academic performance of students with disabilities in an urban middle inclusion school social studies classroom.

## Chapter 3

### Methodology

#### Setting

**School.** This study was conducted at a middle school in an urban central New Jersey school district. The school district contains a total of twenty public schools; thirteen elementary schools, four middle schools and three high schools, all of which are Title I schools. The middle school is a priority school with approximately 450 students. Grades six through eight attend the school. The school day begins at eight thirty and ends at two fifty-five, for a total of six hours and twenty-five minutes. The school runs on an alternating A B schedule, with students receiving instruction in mathematics and language arts daily. Social studies, science, gym and specials are attended every other school day. Students attend classes for one hour and twenty minute blocks. There is a total of five hours and twenty minutes of daily instructional time.

**Students.** According to the 2014-15 NJ School Performance report, 77.3% of the students in the middle school are black, 20.7% of the students are Hispanic, 1.4% of the students are white, 0.4% of the students are Asian and 0.2% of the students are of two or more racial backgrounds. English accounts for the primary spoken language with 90.8% of students reporting English as the predominant language spoken at home, and 8.1% of the students reporting Spanish to be the primary language spoken at home. In terms of economic status, 91.1 % of the students are economically disadvantaged. Moreover, 19.6% of the students have a special education classification and 1% of the students are English language learners.

The study was conducted in two eighth grade social studies inclusion classrooms. A social studies teacher and a special education teacher with social studies certification teach both classes.

### **Participants**

All of the students who participated in the study are categorized as special education students. Classrooms are grouped heterogeneously. All of the students involved in the study have an Individualized Education Plan (IEP).

Student 1. Student 1 is a thirteen-year-old Hispanic male who receives inclusion services for mathematics and language arts. He is classified with a specific learning disability with deficiencies in basic reading skills, reading comprehension, oral expression, listening comprehension, written expression and reading fluency. Student 1 completes his assignments but generally needs extra time and repeated or reworded instructions. He will often sit at his desk for several minutes before beginning a task. He struggles with organization and homework completion. He wants to be successful and enjoys learning about social studies.

Student 2. Student 2 is a fourteen-year-old African-American male who receives resource room instruction for mathematics and language arts and inclusion services for science and social studies. He is classified as multiply disabled with deficiencies in expressive and receptive language skills, fine and gross motor skills and social/emotional development. Student 2 struggles with completing his assignments and often needs repeated directions to understand how to begin his assignment. Student 2 struggles on major assessments such as tests and essays and will often not ask for help even when he

needs it.

Student 3. Student 3 is a thirteen-year-old African American female who receives resource room instruction for mathematics and language arts and inclusion services for science and social studies. She is classified as other health impaired with attention deficit disorder. Student 3 struggles with maintaining focus and concentration in the classroom. She can be easily distracted by other students in the room. Student 3 is a capable student when she applies herself to her assignments.

Table 1

*General Student Information*

<b>Student</b>	<b>Age</b>	<b>Grade</b>	<b>Gender</b>	<b>Classification</b>	<b>Average Test Score</b>
Student 1	13	8	M	SLD	74
Student 2	14	8	M	MD	75
Student 3	13	8	F	OHI	90

*Note.* Test content area is social studies.

**Materials**

The study incorporated the use of flash cards as study materials for the CWPT process. During the intervention period, the students received a set of ten pre-written index cards, eight with vocabulary terms on one side and the definition on the other, two

with critical thinking questions. For the critical thinking questions, several suggested responses related to the lessons were printed on the back of the index cards. Students were instructed that these responses were not the only acceptable answers, merely suggestions based off of the instruction and discussion during class. The peer tutee determined whether each response was accurate. During the baseline and intervention periods, weekly quizzes consisting of eight vocabulary and two critical thinking questions were administered. Each quiz included a word bank and eight fill in the blank vocabulary questions. The two critical thinking questions required three supporting detail, with each relevant supporting detail worth one point. At the conclusion of the study, students took a Likert scale survey on their experience with the CWPT process (see Appendix A).

### **Research Design**

The study utilized a single subject ABAB design, with the initial baseline and intervention phases lasting three weeks, and the final baseline and intervention phases lasting two weeks. For the first three weeks, baseline data was collected in the form of three weekly quizzes. During the first intervention phase, CWPT was implemented. Regular instruction continued, however twenty-minutes of each class will be devoted to the CWPT process. The third phase consisted of a return to the baseline condition (CWPT removed) with the continuation of weekly quizzes. The final phase resumed the CWPT procedure along with the continuation of weekly quizzes. The student quiz scores throughout the four phases will constitute the data for the study.

The research study investigated the effect that CWPT has on two dependent variables; vocabulary acquisition and critical thinking. The baseline phases provided data

to compare with the quiz scores during the implementation of CWPT.

### **Procedures**

The study took place over a ten-week period, during which students took three quizzes during the initial baseline and intervention phases, and two quizzes during the final baseline and intervention phases. The quizzes were summative and covered the instructional content taught throughout the week. Individual charts were compiled tracking individual student scores. Each student had two charts; one chart for their performance on the vocabulary section, and one chart for their performance on the critical thinking questions.

During the intervention, CWPT was implemented. During each class meeting, the class was broken up into tutor/tutee pairs and divided into two teams. The tutor/tutee pairs took turns quizzing each other using the teacher created flash cards. Each student spent ten minutes performing each role. At the end of the twenty-minute peer tutoring session, team scores were compiled. Tutor/tutee pairs earned points for correctly answering questions or for properly correcting and incorrect response. A proper correction occurred when a tutor provided the correct answer and the tutee repeated the correct answer three times. Two points were earned for a correct response, and one point was earned for a proper correction. Tutor/tutee pairs were responsible for keeping their own score. The winning team received five bonus points to be applied to their final quiz score. Assessments were administered after each CWPT session.



## **Measurement Procedures**

The effect of the CWPT intervention on the two dependent variables of vocabulary acquisition and critical thinking were measured. Each student participating in the study had two charts; one chart for their performance on the vocabulary section, and one chart for their performance on the critical thinking questions. The score for the vocabulary questions ranged from zero to eight. The total number of points for the critical thinking questions ranged from zero to three. On the vocabulary section, students earned one point for each correct answer. Each quiz included a word bank and eight fill in the blank questions. The two critical thinking questions required the students to answer the question with three supporting facts, with one point earned for each supporting fact.

At the completion of the final intervention phase, participating students completed a Likert scale survey on their CWPT experience. The survey was conducted anonymously and the responses were compiled into a chart indicating the percentage of students who selected each response.

## **Data Analysis**

Student quiz scores during each phase were collected and recorded in a spreadsheet. The data was maintained in individual and group spreadsheets. In addition to quiz scores, baseline means and intervention means were recorded for each student. Intervention and baseline means were compared to determine the amount to which CWPT affected student vocabulary acquisition and critical thinking. The student

responses on the Likert Scale survey were placed into a chart by the percentage of students who selected each response on the survey.

## **Chapter 4**

### **Results**

Through the use of an ABAB single subject design, this study sought to investigate the effect of CWPT on vocabulary acquisition and critical thinking in an eighth grade social studies inclusion classroom. Students were assessed using quizzes. Three middle school students with IEPs participated in the study.

#### **Vocabulary Acquisition**

The first research question asked if CWPT would affect the quiz scores of students with learning disabilities in an eighth grade inclusion social studies classroom. This question was addressed by the performance of the students on the vocabulary section of the quizzes.

Table 2 shows the vocabulary acquisition scores of each student across the four phases. The table includes the number of correct responses and the mean for each phase of the study. Students 1 and 3 both showed gains after the initial baseline phase. Student 1 demonstrated perfect scores across all phases after the first baseline phase. Student 3 had perfect scores across both intervention phases, while his performance during the baseline periods fell slightly. Student 2 showed consistent scores across both baseline and intervention phases.

Table 2.

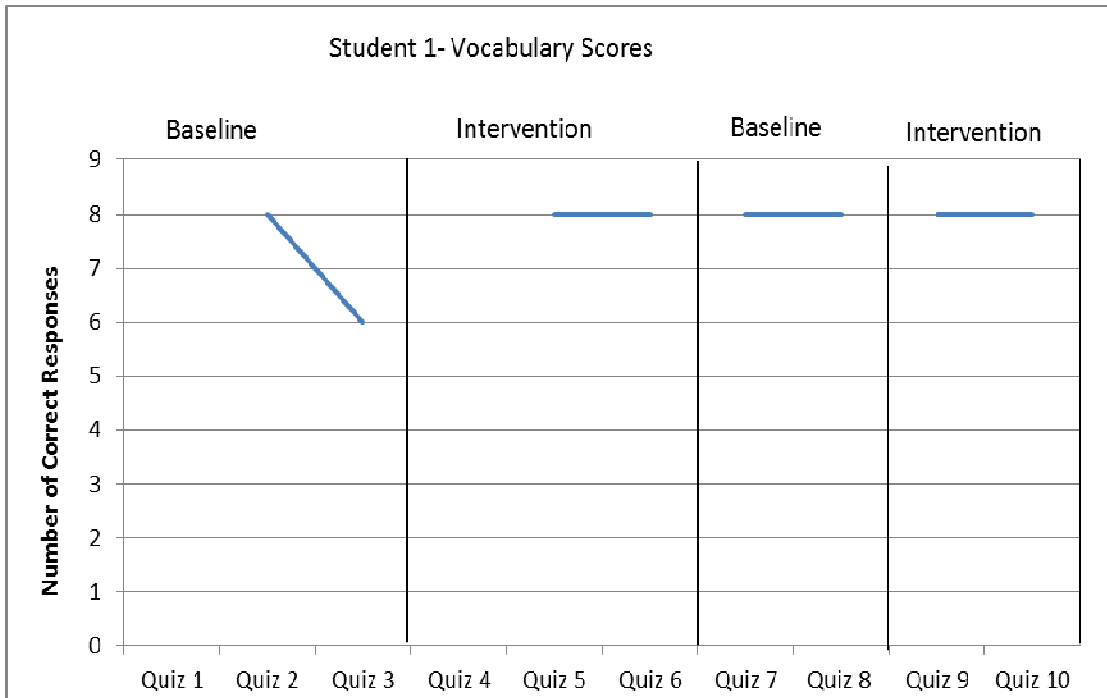
*Vocabulary Acquisition Across Phases*

		<b>Student 1</b>	<b>Student 2</b>	<b>Student 3</b>
<b>Baseline</b>	Quiz 1		8	6
	Quiz 2	8	8	8
	Quiz 3	6	6	6
	Baseline Mean	7	7.33	6.66
<b>Intervention</b>	Quiz 4		8	8
	Quiz 5	8	8	8
	Quiz 6	8	6	8
	Intervention Mean	8	7.33	8
<b>Baseline II</b>	Quiz 7	8	8	6
	Quiz 8	8	6	8
	Baseline II Mean	8	7	7
<b>Intervention II</b>	Quiz 9	8	8	8
	Quiz 10	8	6	8
	Intervention II Mean	8	7	8

*Note:* Vocabulary acquisition scores out of 8 possible points.

**Individual Results- Vocabulary Acquisition**

Figure 1 shows the vocabulary scores of student 1 across the ten quizzes. Student 1 did not participate in quiz 1 or quiz 4. Student 1 showed consistent results after the first intervention phase. On quiz 3, Student 1 answered six of eight vocabulary questions correctly. On the following quizzes, all scores were a perfect eight out of eight. Student 1 demonstrated the highest overall mean score across the ten quizzes.



*Figure 1.* Student 1 vocabulary scores across all phases

Figure 2 shows the vocabulary scores of Student 2 across the ten quizzes. Student 2 demonstrated a consistent pattern of obtaining an eight out of eight on the first quiz of each phase and then dropping to a six out of eight on the final quiz in each phase. During the three-week initial baseline and intervention phases, Student 2 scored perfectly on the first and second quizzes before falling to a six out of eight for the final quiz.

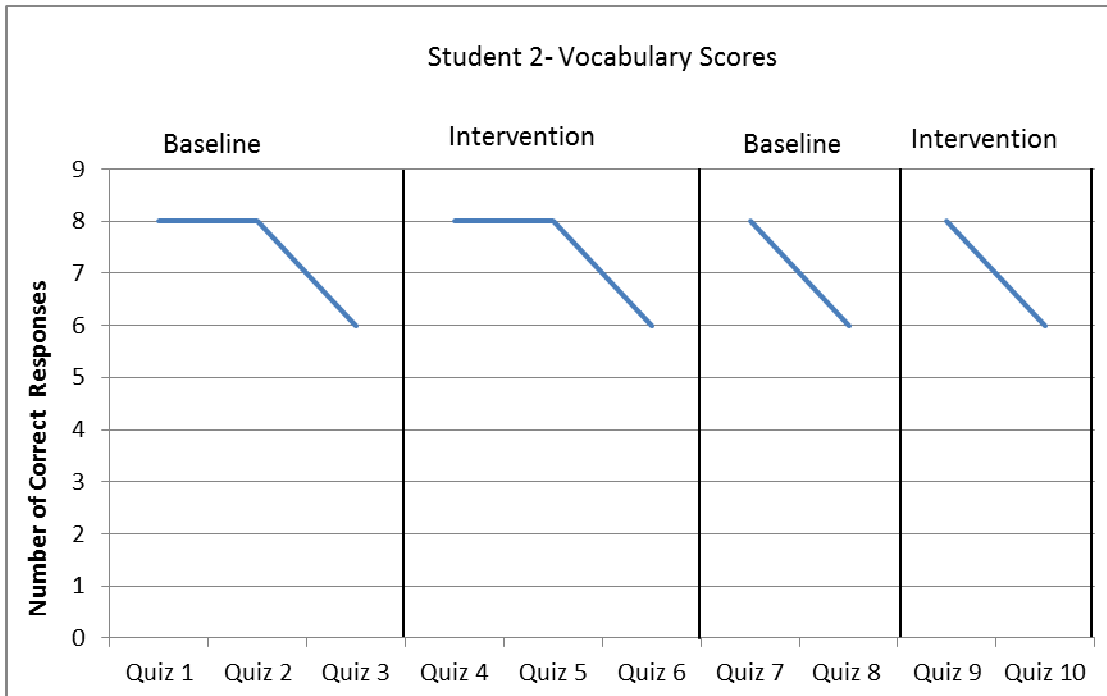


Figure 2. Student 2 vocabulary scores across all phases

Figure 3 shows the vocabulary scores of Student 3 across all four phases of the study. Student 3 scored the lowest during the initial baseline phase before obtaining perfect scores on all three quizzes during the first intervention phase. During the second baseline phase, Student 3's score fell to a six out of eight before returning to an eight. During the final intervention phase, Student 3 again achieved perfect scores.

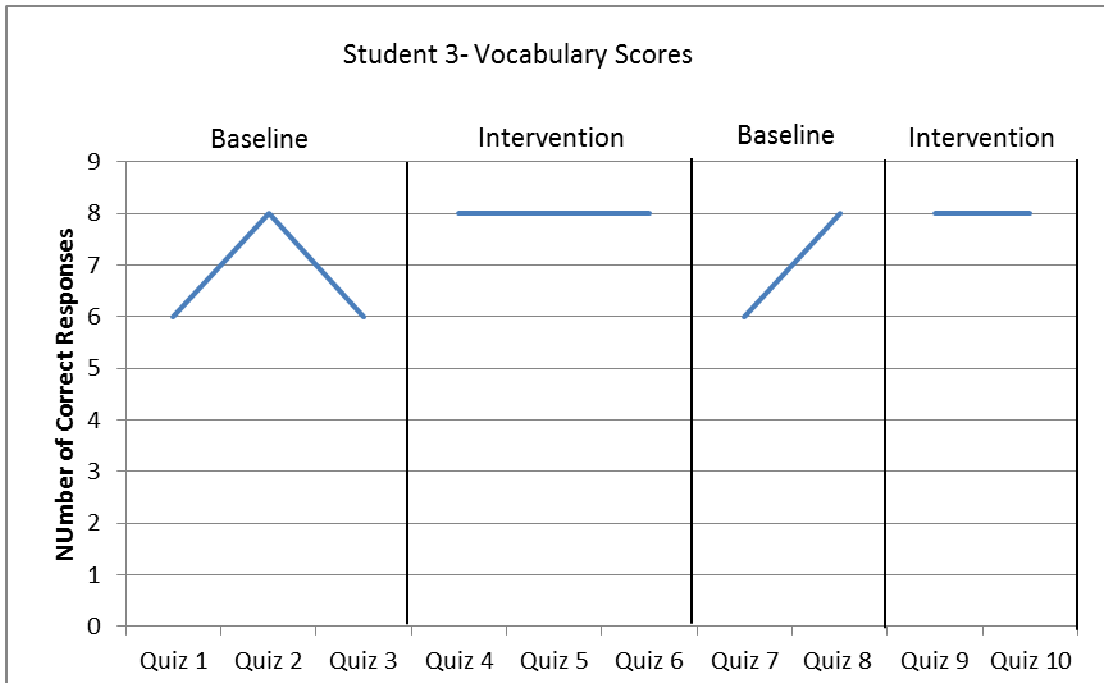


Figure 3. Student 3 vocabulary scores across all phases

### Critical Thinking

The second research question asked if CWPT would affect the performance of students with learning disabilities on critical thinking questions in an eighth grade inclusion social studies classroom. Data was gathered using quizzes. Each quiz had two open-ended questions for which students could earn three points per question for a maximum of six points. Table 3 shows the scores of all three participating students across all four phases of the study. The results were mixed for all of the students.

Table 3.

*Critical Thinking Scores Across All Phases*

		<b>Student 1</b>	<b>Student 2</b>	<b>Student 3</b>
<b>Baseline</b>	Quiz 1		2	2
	Quiz 2	3	3	5
	Quiz 3	2	3	3
	Baseline Mean	2.5	2.33	3.33
<b>Intervention</b>	Quiz 4		3	2
	Quiz 5	0	2	3
	Quiz 6	6	6	3
	Intervention Mean	3	3.66	2.66
<b>Baseline II</b>	Quiz 7	5	1	4
	Quiz 8	2	2	2
	Baseline II Mean	3.5	1.5	3
<b>Intervention II</b>	Quiz 9	5	3	3
	Quiz 10	2	3	3
	Intervention II Mean	3.5	3	3

*Note:* Critical thinking scores out of 6 possible points.

**Individual Results- Critical Thinking**

Figure 4 shows the critical thinking scores of Student 1. Student 1 did not participate in quiz 1 or quiz 4. The results show the lowest performance during the first baseline phase during which Student 1 scored a three and a two. During the first



intervention phase, Student 1 scored a zero and a perfect six. Scores across the final baseline and intervention were consistent with both phases beginning with a five on the first quiz and a two on the second quiz. Student 1 showed the widest range of scores, scoring as low as a zero and as high as a six.

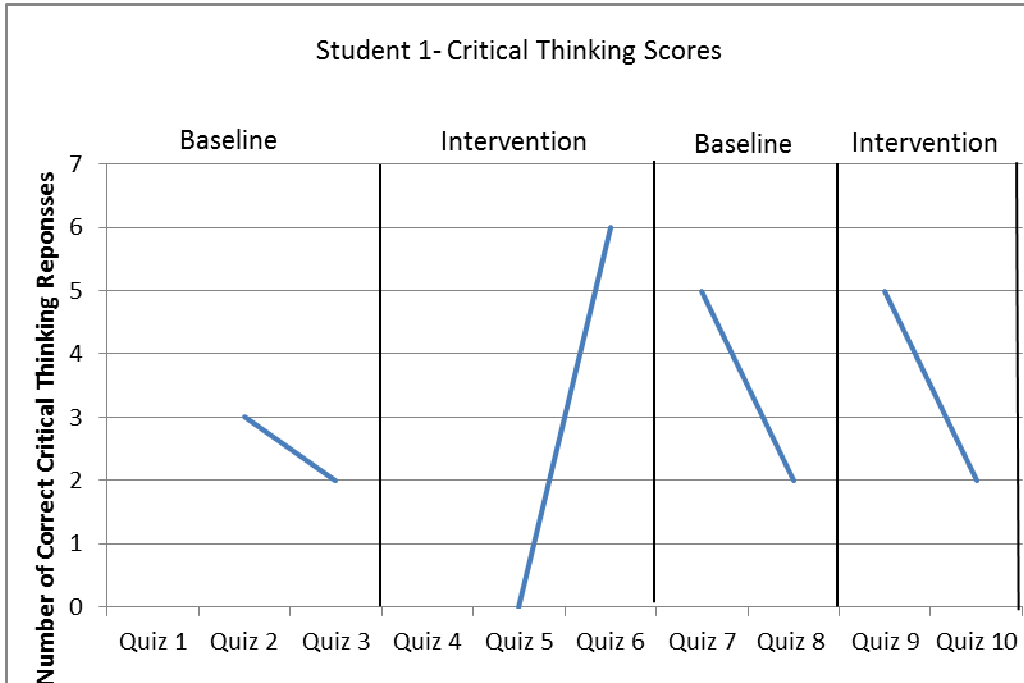


Figure 4. Student 1 critical Thinking scores across all phases

Figure 5 shows the critical thinking scores of Student 2 throughout all phases of the study. Student 2 demonstrated growth from the previous baseline phase during both of the intervention phases. During the initial baseline phase, Student 2 scored a two followed by threes on the final two quizzes. During the first intervention, Student 2 scored a three then fell to a two before obtaining a perfect score on the final quiz of the phase. There was a notable drop off during the second baseline phase where scores of

two and three were obtained. During the final intervention phase, Student 2 scored a three on both quizzes.

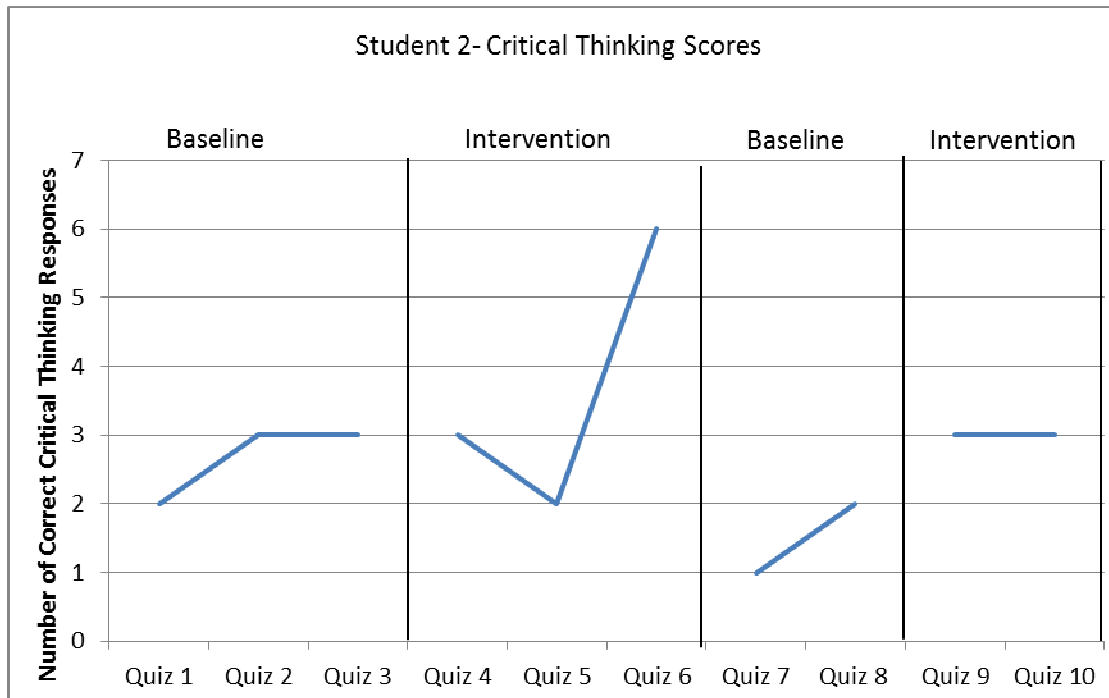


Figure 5. Student 2 critical thinking scores across all phases

Figure 6 shows the critical thinking scores of Student 3 across all four phases of the study. The results demonstrate decreases in the critical thinking scores from each baseline to each intervention phase. Student 3 earned her highest scores during the initial baseline phase with a mean score of 3.33. This fell to a mean score of 2.66 during the intervention phase. Student 3 earned scores of four and two during the second baseline phase and scored a three on both quizzes during the final intervention phase.

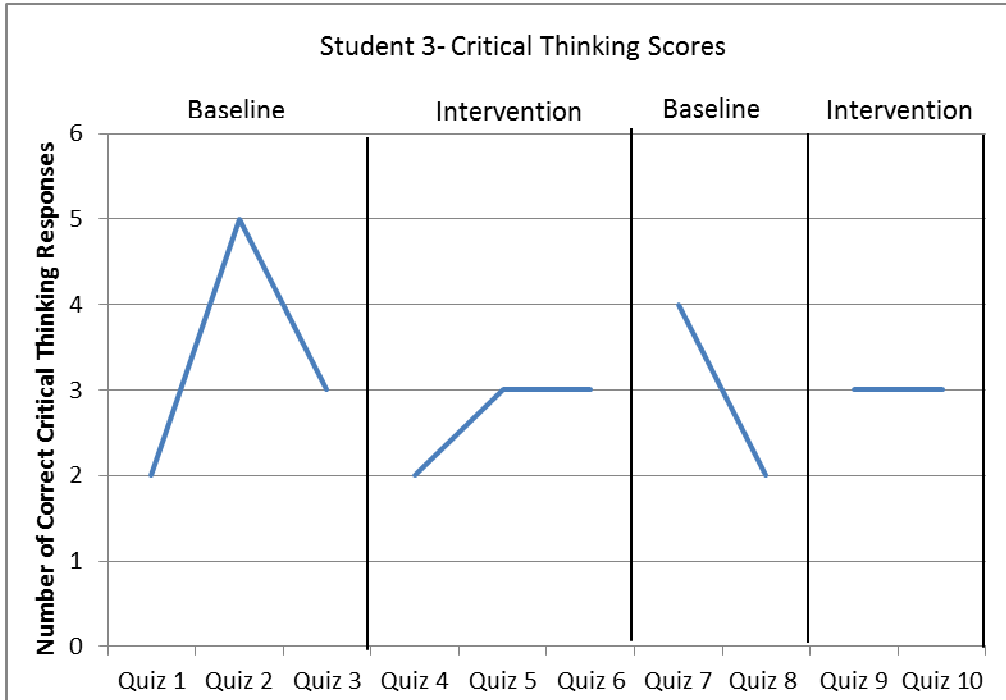


Figure 6. Student 3 critical thinking scores across all phases

### Group Results

Table 4 shows the group mean and standard deviations for both vocabulary scores and critical thinking scores across the four phases of the study.

Table 4

*Group Mean and Standard Deviation for Study Variables*

Variable	Mean	Standard Deviation
Baseline Vocabulary Scores	7	1
Intervention Vocabulary Scores	7.75	0.66
Baseline II Vocabulary Scores	7.33	0.94
Intervention II Vocabulary Scores	7.66	0.75
Baseline Critical Thinking Scores	2.88	0.93
Intervention Critical Thinking Scores	3.13	1.90
Baseline II Critical Thinking Scores	2.67	1.37
Intervention II Critical Thinking Scores	3.17	0.90

In the area of vocabulary acquisition, the students showed higher mean scores and less standard deviation during the intervention phases. The students went from a 7 during the initial baseline phase to a 7.75 during the initial intervention phase. Scores fell slightly to a 7.33 during the second baseline phase before rising to a 7.66 during the second intervention phase. The results demonstrate an overall increase in the area of vocabulary acquisition.

Critical thinking scores also showed increases during both of the intervention phases. During the initial baseline phase, the mean score was a 2.88, which rose to a 3.13

during the intervention. Scores fell to a 2.67 during the second baseline phase and rose to a 3.17 during the second intervention phase. The standard deviation was inconsistent across the four phases. The standard deviation rose from a 0.93 during the first baseline phase to a 1.9 during the intervention phase. It then fell to a 1.37 during the second baseline, and then decreased again to a 0.9 during the final intervention phase. Overall, the results indicate a slight increase in the group critical thinking scores during the CWPT intervention.

### **Satisfaction Survey**

The final research question asked if students with learning disabilities would be satisfied with the use of CWPT. The three participating students each completed a Likert Scale survey based on their experiences with CWPT. The survey consisted of eight questions scored on a scale of 1 to 5, 5 for strongly agree, 4 for agree, 3 for neutral, 2 for disagree, and 1 for strongly disagree.

The results of the survey were largely positive, with twenty of the twenty-four questions yielding a positive response. All of the students strongly agreed that CWPT helped them to better understand social studies and that CWPT helped them to learn the material. One student strongly agreed and two students agreed that CWPT helped keep them focused on their work and that they would like to use the intervention practice again in the future. One student indicated a preference for working alone rather than through the use of CWPT. This was the only negative response on the three student surveys. A neutral response was given for three questions; I found CWPT easy to do, I would like to

use CWPT in my other classes, and CWPT helped me to support my opinion (see Table 5).

Table 5

*Student Survey Results, N=3*

	Strongly Agree (%)	Agree (%)	Undecided (%)	Disagree (%)	Strongly Disagree (%)
1. I found classwide peer tutoring easy to do.	66.6	0	33.3	0	0
2. Classwide Peer tutoring kept me focused on my work.	33.3	66.6	0	0	0
3. I prefer classwide peer tutoring to studying by myself.	66.6	0	0	33.3	0
4. Classwide peer tutoring helped me to better understand the social studies material.	100	0	0	0	0
5. I would like to use classwide peer tutoring again in social studies class.	33.3	66.6	0	0	0
6. I would like to use classwide peer tutoring in my other classes.	33.3	33.3	33.3	0	0
7. Classwide peer tutoring helped me to support my opinion.	66.6	0	33.3	0	0
8. Tutoring my partner helped me to learn the material.	100	0	0	0	0

## **Chapter 5**

### **Discussion**

The purpose of this study was to investigate the effectiveness of CWPT in teaching social studies vocabulary and critical thinking in an eighth grade inclusion social studies classroom. CWPT was utilized to help students with vocabulary acquisition and open-ended critical thinking questions. This study also sought to determine whether or not students would be satisfied with the use of CWPT.

### **Findings**

One of the primary areas of success that research in CWPT has demonstrated is in the area of vocabulary acquisition (Stenhoff & Lignugaris/Kraft, 2007). The findings of the present study corroborate the findings of Stenhoff and Lignugaris/Kraft (2007), as the overall group mean improved from a 7 during the initial baseline to a 7.75 during the first intervention phase, decreased to a 7.33 during the second baseline phase and increased again to a 7.67 during the final intervention phase. Student 1 and Student 3 both showed increases from the baseline to intervention phase. Student 1 obtained perfect scores on all vocabulary components of each quiz from the beginning of the first intervention phase through completion of the study. Student 2, however, did not show any increase between the baseline and intervention phases. His scores for the first baseline and intervention phases are identical and his scores for the second baseline and intervention are identical.

While the statistical increases in the area of vocabulary acquisition were minor, they show improvement for two of the three participants. These findings contrast with those of DuPaul et al. (1998) who found mixed results in a study of the use of CWPT for

students with ADHD. DuPaul et al. found little consistency from baseline to intervention phases. For the one student in this study who is diagnosed as ADHD, CWPT showed improvement from both baseline to intervention phases.

In a multi-year study on the effect of CWPT across multiple subject matters, Kamps et al. (2008) utilized similar social studies quizzes consisting of vocabulary terms and comprehension questions. Their findings showed consistent and significant increases in the quiz scores across four classrooms and three school years. The findings of Kamps et al. (2008) represent a more significant increase than those of the present study, and confirm that CWPT may lead to academic increases in the area of social studies.

The results in the area of critical thinking are more difficult to determine. While the overall group mean score improved from a 2.88 during the initial baseline phase to a 3.13 during the first intervention phase, and again improved from a 2.67 during the second intervention phase to a 3.17 during the final intervention phase, the individual results do not demonstrate as clear of a picture. Student 1 showed an increase in mean score from a 2.5 to a 3 for the first baseline to the initial intervention phase, and scored a mean of 3.5 across the final two phases. Student 2 showed a clear increase in mean scores from baseline to intervention, scoring a 2.67 during the first baseline and a 3.67 during the first intervention phase. During the second baseline, Student 2's score decreased to a 1.5 and increased to a 3 during the second intervention. It is interesting that while Student 2's vocabulary acquisition was not impacted by CWPT, he is the only subject who showed consistent growth from baseline to intervention in the area of critical thinking. Student 3 demonstrated a decrease in score with a mean score of 3.33 during



the first baseline and a 2.67 during the first intervention phase. Student 3 had a mean score of 3 through the final two phases of the study.

As noted in the research of Allsopp (1997), higher level thinking skills such as critical thinking is an area in which the application of CWPT has little research. Utilizing CWPT to teach higher level thinking skills in the area of algebra, Allsopp found no distinguishable difference between students using CWPT to learn problem-solving skills and students using independent practice.

In the present study, while there were minor statistical improvements from the baseline to intervention phases, they do not represent a major statistical difference or demonstrate a significant impact of the use of CWPT in the area of critical thinking. This corroborates the findings of Allsopp (1997) who concluded that CWPT was not a significant factor in the learning of higher order thinking skills.

In a study on the use of CWPT in ten inclusion social studies classes, Scruggset al. (2012) found growth in student outcomes from pretest to posttest. The study incorporated open-ended questions similar in nature to the critical thinking questions in the present study. However, the results are very different and suggest that additional research utilizing CWPT as a means for answering critical thinking questions in the area of social studies is warranted.

In terms of social validity, results of the student satisfaction survey demonstrated student satisfaction with the CWPT process. The results of the Likert Scale survey were almost entirely positive with fifteen responses of strongly agree and five responses of agree. The only negative response was from one student who disagreed with the

statement “I prefer classwide peer tutoring to studying by myself.” Three neutral responses were also indicated. The mean score of the eight survey questions ranged from 4 to 5, indicating consistent student agreement. While observing the class during the CWPT process, it seemed that the overwhelming majority of students were engaged and enjoyed studying with their peers. The overwhelmingly positive response to CWPT is consistent with the findings of DuPaul et al. (1998) who found that eighteen out of twenty-one participants enjoyed CWPT and eighteen out of twenty-one believed that CWPT helped them to better learn the material.

During the baseline condition students were allowed to spend five minutes reviewing class notes and handouts prior to quizzes. Many students would not spend this time studying or would review what was ultimately irrelevant information. There was a clear change in the classroom tone and atmosphere between note review during the baseline phases and then CWPT sessions. The level of engagement in the classroom material was evident during CWPT. This finding is corroborated by the findings of McDonnell et al. (2001), that CWPT in an inclusion classroom may provide a means of increasing the engagement of students with moderate and severe disabilities in a general education setting.

### **Limitations**

There are several factors that may have impacted this study, the first factor being time. The amount of time devoted to CWPT was limited by the length of time needed for IRB approval and impending state testing. A longer study with a greater number of data points, especially during the second baseline and intervention phases, could have

provided more insightful results. Due to the time restrictions and the difficulty in finding relevant terms, some vocabulary terms were repeated between quizzes six, seven and eight.

The second limiting factor is the number of participants. This study was limited to three participants. A larger sample size would be beneficial in determining the extent to which CWPT can impact vocabulary acquisition and the effect on critical thinking.

An additional factor was the presence of a student teacher during the final intervention phase. Instruction during the first eight weeks of the study was a continuation of normal instruction involving a general education social studies teacher and a dual certified special education and social studies teacher. Lessons were planned out in advance enabling a consistent approach to lesson pacing and content. During the final intervention phase, a student teacher took over instruction in the classroom. The general education and special education teacher continued to be present for all lessons and to assist with assignments. CWPT continued using the same time frame and structure as during the previous phases. It is difficult to assess the effect that the quality of the instruction had on student performance. This factor could be particularly limiting in the area of critical thinking. All of the critical thinking questions were based off of lesson content and were addressed within the lesson with the foreknowledge that those questions would be asked on a quiz. This impacted the amount of attention given to the questions and the nature in which they were discussed in class. While critical thinking questions were created with the input of the student teacher, this same foresight and attention to detail was not replicated by the student teacher.

The effectiveness of placing open-ended questions on flash cards is also difficult to assess. The nature of using a flash card with a question on one side and an answer on the other does not seem to be best suited to answering open-ended critical thinking questions. For some questions it was easy to draw upon facts or viewpoints from the lessons and place them on the back of the index card. Other questions were heavily opinion based and it was up to the tutor to determine if a response was accurate or not. The idea of dictating the response of a critical thinking question on the back of an index card calls into question whether it is truly critical thinking at all.

### **Implications and Recommendations**

This study adds to the existing research on CWPT and its applications in special education environments. The findings of this study demonstrate that CWPT may be helpful in teaching vocabulary to students with learning disabilities. Having taken place in a middle school inclusion social studies classroom, this study examined areas in which there have been calls for future research such as higher level questioning, thinking skills and comprehension based materials (Maheady & Gard, 2010; Lo & Cartledge, 2004; DuPaul et al. 1998; Allsopp, 1997), additional subject areas (Mastropieri et al., 2006; Maheady et al., 1987), students with disabilities in the secondary setting (Stenhoff & Lignugaris/Kraft, 2007), and inclusive secondary classrooms (Scruggs et al., 2012).

Student satisfaction surveys demonstrated that the participants enjoyed the use of CWPT and found it to be a useful strategy and that the process of tutoring helped them to learn the material. These results indicated that CWPT represents not only a potentially

successful research based strategy, but also a strategy from which students can see the results and a process that they found enjoyable.

One of the most significant drawbacks of CWPT was the amount of labor and time involved in the creation of index card sets for an entire class. This was also noted in a study by Maheady et al. (1987), both for the time required for developing the index cards and the difficulty in finding content for the flash cards. It would be recommended to carefully consider the manner in which flash cards will be created, whether through a printer or being hand written. Classroom sets can consist of approximately one-hundred and twenty flash cards per CWPT assessment.

CWPT represents a creative research based practice to assist students in reviewing information. Students enjoyed the process and it led to slight increases in their academic achievement. CWPT represents a strategy that could be employed in any subject and at any grade level. Being a student led activity, CWPT gives teachers a chance to observe their class as they interact, to monitor positive interactions and to assess the effectiveness of their instruction. Effective pre-teaching of the CWPT content can be evident by reviewing student scorecards and by general observation.

Future research could help in determining the effectiveness in using CWPT to teach critical thinking skills. This research could focus on social studies or other curriculum areas. Further research could also be implemented to assess the efficacy of CWPT in urban middle school social studies inclusion classrooms.

## **Summary**

The results of this study indicate that CWPT is an effective strategy for teaching social studies vocabulary terms in an urban middle school social studies inclusion classroom. Two of the three participants showed increases or the maintenance of a perfect score from baseline to intervention phase, with one student maintaining the same mean from each baseline to intervention phase. While group means demonstrated minor increases in the area of critical thinking, the results were varied and do not demonstrate a strong correlation between CWPT and increases in critical thinking. Only one of the three participants showed consistent improvements from each baseline to intervention phase. Student surveys demonstrated primarily positive results with all students agreeing that peer tutoring helped them to better learn the material. Overall, CWPT demonstrated success in the area of vocabulary acquisition and mixed results in the area of critical thinking.

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## Appendix

### Likert Scale Satisfaction Survey

#### Classwide Peer Tutoring Survey

Directions: Read each sentence below and place an **X** in the column you feel most accurately indicates your feelings.

<i>Statements</i>	<b>Strongly Agree 5</b>	<b>Agree 4</b>	<b>Undecided 3</b>	<b>Disagree 2</b>	<b>Strongly Disagree 1</b>
1. I found classwide peer tutoring easy to do.					
2. Classwide Peer tutoring kept me focused on my work.					
3. I prefer classwide peer tutoring to studying by myself.					
4. Classwide peer tutoring helped me to better understand the social studies material.					
5. I would like to use classwide peer tutoring again in social studies class.					
6. I would like to use classwide peer tutoring in my other classes.					
7. Classwide peer tutoring helped me to support my opinion					
8. Tutoring my partner helped me to learn the material.					