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High School Teachers' Motivation and Strategies for Effectively Implementing Cooperative Learning

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MA, Wilkes University, 2011

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Project Study Submitted in Partial Fulfillment

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Abstract

Despite being expected by administrators to use cooperative learning regularly and effectively in their instructional practices, less than one third of high school teachers in the targeted U.S. public school district implemented the practices above a proficient level, according to district data. The purpose of this qualitative case study was to examine the motivation, strategies, and practices of a representative group of teachers at the high school who were rated highly effective on their 2016-2017 annual summative evaluation in cooperative learning. The research questions concerned the motivation of these teachers to include cooperative learning practices in their classrooms. Two additional research questions focused on the teachers' planning, implementation, and assessment of students and the challenges they encounter while employing cooperative learning practices. The participants included 10 teachers rated highly effective who were selected through homogeneous, purposeful sampling. Qualitative data were collected through semistructured interviews and document reviews of lesson plans and resources. Coding and thematic analysis were used to examine and report that data. Participants revealed concerns regarding the time involved in planning and implementing cooperative learning along with the difficulties of group composition and student assessment during the process. Based on the study results, a professional development series was designed to provide additional training and to establish a district wide definition of cooperative learning. This project study may facilitate positive social change by encouraging and supporting teachers as they better prepare students to overcome the challenges of collaboration and teamwork.

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Dedication

I dedicate this paper to my husband, our children, and our grandchildren. You never made me feel like I let you down when I missed events or skipped meals. Your encouragement kept me going. To my administrators and colleagues who provided access to data, took part in my study, and cheered me on, I appreciate your time and support. To my supervisor and friend Carolyn, thank you for helping me down off every ledge you have put me on over the past 10 years. Thank you for forcing me to believe in myself. To Deb, my sister STOY who traveled this path with me, you will never know how important our phone conversations were and how much I needed your push and pull through this process.

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Section 1: The Problem

Introduction

Multiple experts view teamwork and collaboration as critical skills young people must develop as they prepare to enter college and careers in the 21st century's global society (Moore, 2016; National Research Council, 2012; Scott, 2015; U.S. Department of Education Office of Educational Technology, 2017). It, therefore, follows that high school administrators should expect their teachers to regularly include such pedagogical practices in their curriculum, instruction, and assessment routines. However, after a request from administrators to examine the past 3 years of annual summative teacher evaluations and district walkthrough data, the Professional Development Committee (PDC) at Achievement High School (AHS; pseudonym) in the U.S. state of New Jersey uncovered a gap in practice. After gathering and averaging data, the PDC noted in its October 12, 2016 meeting minutes that in the 3 prior years, less than one third of AHS teachers included cooperative learning (CL) in a highly effective manner as described in Standard 4F in the McREL Teacher Evaluation System. McREL's teacher evaluation system is a research-based evaluation system used by administrators to observe and evaluate teachers in the classroom (McREL International, 2016). Standard 4F specifically addresses a teachers' ability to organize and support students as they work collaboratively in cooperative teams (McREL International, 2016). By limiting students' exposure to highly effective CL, AHS teachers may be hampering district students' opportunities to enhance their collaborative skills leaving those students less prepared to enter college and careers.

Administrators at AHS are not alone in evaluating teacher practice. In response to the United States Department of Education's No Child Left Behind (2001) and Race to the Top (2009) initiatives, administrators nationwide have put teacher evaluation systems in place. Research demonstrating the influence of teachers on student achievement was instrumental in the evaluation movement in the U.S. (Hattie, 2009; National Commission of Teaching and America's Future, 1996). Using such evaluation systems, administrators in pre-K-12 educational institutions can assess the quality of educational opportunities their teachers are providing to the students.

In New Jersey, administrative teams in each school district are free to choose from several evaluation models with which to measure the effectiveness of their teachers. The assistant superintendent confirmed through personal communication on July 31, 2017 that administrators at AHS use the McREL Evaluation System. In their book *Classroom Instruction That Works: Research-Based Strategies for Increasing Student Achievement*, Marzano et al. (2001) included CL as one of nine instructional strategies identified through research to have a statistically positive effect on student learning. Marzano et al.'s findings served as the basis for McREL's evaluation system. For comparison, I examined three other evaluation systems frequently used by districts throughout New Jersey (Learning Sciences Marzano Center, 2017; Strong & Associates Educational Consulting, LLC, 2017; The Danielson Group, 2017). Each system included a standard directly measuring the effectiveness of teacher's inclusion of teamwork or cooperative grouping and student collaboration, thus supporting the call for all teachers to implement CL practices (Common Core State Standards, 2016; Gillies, 2014; New Jersey

Department of Education [NJDOE], 2016; Rotherham & Willingham, 2009). In this qualitative case study, the term *highly effective* was used to indicate the McREL Evaluation System's ratings of *accomplished* or *distinguished,* which reference the quality of a teacher's implementation of cooperative grouping and student collaboration (McREL International, 2016). For clarity, in this study, I used the term *CL* to indicate the pedagogical practice by which teachers plan and implement cooperative groups in a structured way that supports student collaboration and enhances learning.

The Local Problem

In the 3 years from 2015 to 2017, less than one third of the high school teachers at AHS implemented CL as a part of their classroom practice in a highly effective manner, according to the October 12, 2016, meeting minutes of the school's PDC. When the AHS PDC members examined ex-post facto data, they found this gap in teachers' pedagogical practices to be evident. Most AHS teachers included only limited opportunity for students to participate in CL. According to a November 17, 2016, e-mail by the assistant superintendent to the committee, administrators had made it clear to district teachers during in-services and individual teacher evaluation preconferences that they should include such skills in curriculum, instruction, and assessment on a regular basis. However, upon examining district walkthrough data collected over 3 school years, the PDC noted that administrators recorded results to the contrary. In 1,089 visits to high school classrooms conducted by administrators over the past 3 years where grouping was noted, administrators reported that either whole group (46%) or independent student (32%) work was evident in most instructional time, according to the PDC meeting

minutes. Additionally, the data discussed in the October 2016 PDC meeting illustrated that during the same 3-year period only 32% of the teachers, on average, scored highly effective on their annual summative evaluation in Standard 4F.

Collaborative work in partnership with others is critical for success in today's global society (Cleaves, 2015). As such, state and national leaders, educators, and employers continue to call for the inclusion of such 21st century skills in current U.S. educational curricula (Common Core State Standards, 2016; Gillies, 2014; New Jersey Department of Education [NJDOE], 2016; Rotherham & Willingham, 2009). CL is a practice by which students work together in small groups to achieve a common goal while developing positive interdependence, individual accountability, promotive interaction, social skills, and group processing abilities (Laguador, 2014). Researchers have found that the practice improves student motivation, enhances problem-solving skills, and teaches the importance of community while calling for individual accountability (Gillies, 2014; Hossain & Tarmizi, 2013; Laal, Geranpaye, & Daemi, 2013). By availing students of additional practice in highly effective CL environments, teachers will be supporting their students' growth and development in multiple areas.

Furthermore, executives consistently rank interpersonal skills and the ability to collaborate as critical to business operations and relationships and therefore necessary talents for future members of their workforce to possess (Bedwell, Fiore, & Salas, 2014, Opdecam & Everaert, 2018). However, the PDC finding that only one third of the teachers in AHS are employing CL regularly as an instructional strategy is not an anomaly. A 2017 quantitative study conducted in Geneva involving 207 teachers from

67 schools reported that although 40% of the teachers in the study reported using CL occasionally, only 33% said they used it on a regular basis (Buchs et al., 2017). Buchs et al.'s (2017) concluded that CL and student collaboration are critical skills for students to develop yet teachers are not regularly exposing their students to the process necessary to develop these skills. Based on Buchs et al.'s (2017) conclusion and research by others (Gillies & Boyle, 2010; Johnson & Johnson, 1999; Mcglynn & Kozlowski, 2016; Moore, 2016), it is, therefore, incumbent upon teachers to not only provide the opportunity for students to practice such skills but to also include instruction for students on how to develop the skills.

Rationale

AHS's PDC review findings indicated that over the past 3 years, on average, less than one third of the teachers in AHS were affording their students the opportunity to practice collaborative skills and teamwork regularly. Yet, Mcglynn and Kozlowski (2016) and Kaufman (2013) suggested that to prepare the students for future college and career environments, teachers must help develop collaborative skills in the students they teach today. Consequently, the local problem that prompted this project study was the gap in practice between administrators' expectations that all teachers should implement CL into their curriculum, instruction, and assessments, and the reality that over the past 3 years, on average, only 32% of the teachers in AHS had done so in a highly effective manner. The purpose of this qualitative case study was to examine the motivation, strategies, and practices employed by a representative group of teachers at AHS who

were rated highly effective on their 2016-2017 annual summative evaluation in the implementation of CL.

Definition of Terms

Following are definitions of terms used in this project study. I obtained local definitions from the AHS assistant superintendent and from the district developed evidence document.

Classroom observation: A visit to the classroom by an evaluator usually lasting for the entire class period during which time the evaluator notes the teacher's performance as it relates to the evaluation rubric (Williams, 2009).

Collaboration: A philosophy of communication where individuals interact with others cooperatively to achieve a goal in a way that respects abilities and contributions of all involved (Nokes-Malach, Richey, & Gadgil, 2015; Pinho-Lopes & Macedo, 2016).

Constructivist approach: An approach that stresses the active construction of knowledge by learners through experiences rather than the passive receipt of information from the teacher (Weimer, 2013).

Cooperative learning: An instructional practice in which small groups of students work together to solve a problem or gain a deeper understanding of an issue in a way that allows each member to make individual contributions while at the same time learning from and being responsible for the learning of the others (Pinho-Lopes & Macedo, 2016; Slavin, 2014b).

Highly effective teachers: Teachers who received a rating of accomplished or distinguished on their annual summative evaluation in McREL Standard 4F.

Imposter syndrome: A phenomenon characterized by individuals harboring feelings of inadequacy, self-doubt, and phoniness when among intelligent and high achieving individuals and lacking confidence in their abilities (Brems, Baldwin, Davis, & Namyniuk, 1994; Chapman, 2017).

Local definition of accomplished rating for McREL Standard 4F: A rating achieved when a teacher encourages students to establish procedures to create and manage their learning teams effectively; establishes a group processing procedure to help students identify what went well and areas for improved cooperation and collaboration; develops group covenants/rules and procedures; develops and uses rubrics that require student cooperation, collaboration, and leadership; incorporates student feedback/peer evaluation into learning and group reflection; and develops teamwork skills that will benefit students outside the classroom.

Local definition of distinguished rating for McREL Standard 4F: A rating achieved when a teacher, in addition to incorporating all elements for the accomplished rating, structures assignments to facilitate transfer of group skills to another situation beyond the classroom; creates assignments that permit students to autonomously assign roles to one another; establishes Web 2.0 collaborative environments such as blogs, wikis and Google docs; conducts professional development on effectively using learning teams; and encourages students to continually provide healthy challenges for each other.

Local definition of cooperative group: A group in which three or more students work cooperatively with minimal teacher input to collaboratively achieve a given outcome.

Local definition of grouping: A group in which two or more students work together to enhance learning.

Local definition of intentional grouping: The grouping of students by specific traits, abilities, and/or needs (i.e., for an educational reason rather than random selection).

Local definition of pair: A dyad of two students who work together to produce a product or evidence of learning.

Local definition of small group: Groups of three or more students who work together to produce a product or evidence of learning.

McREL Evaluation System: A system used by administrators to evaluate teacher performance as it relates to professional teaching standards. Ratings in this system are translated into the state accepted ratings of developing, proficient, accomplished, and distinguished with accomplished and distinguished being considered highly effective (Williams, 2009).

McREL Standard 4: The standard achieved when *"*teachers facilitate learning for their students" (Williams, 2009, p. 5).

McREL Standard 4F: One of the standards administrators observe under Standard IV on the McREL Evaluation system which rates the level at which teachers help students work cooperatively in teams and develop leadership qualities. During the observation, administrators evaluate teachers on the methods they use to teach the importance of cooperation and collaboration and how they organize learning teams to help students define roles, strengthen social ties, improve communication and

collaborative skills, interact with people from different cultures and backgrounds, and develop leadership qualities (Williams, 2009).

McREL 4F Accomplished Rating: A rating given by administrators to a teacher when, over the course of two to three observations in a year, students in the teacher's classroom are observed creating and managing their own learning teams (Williams, 2009).

McREL 4F Distinguished Rating: A rating given by administrators to a teacher when, over the course of two to three observations in a year, students in the teacher's classroom are observed creating and managing their own learning teams and there is evidence that the teacher fosters the development of student leadership and collaborative skills that the students can use beyond the classroom (Williams, 2009).

Problem-based learning: The practice of students working in small groups to solve real-life, practical problems, which often have more than one right answer. Students are usually confronted with the problem before they are given all relevant information (Davidson & Major, 2014).

Teacher evaluation: In New Jersey, a teacher's annual summative evaluation score consists of two areas. The first, teacher practice, is assessed by administrators observing the teacher's practices both in the classroom and outside of it. The second measurement comes from Student Growth Objectives set by teachers in non-tested content areas or Student Growth Percentiles based on state assessment performance for teachers in tested content areas (NJDOE, 2014a). For this study, only ratings from

classroom observations on McREL Evaluation System Standard 4F were used to identify the participant pool.

Traditional learning: Teacher-centered learning where students sit passively while the teacher lectures or directs the learning (Pinho-Lopes & Macedo, 2016).

Walkthroughs: Brief, informal classroom observations by administrators usually lasting less than 10 minutes. During this time, administrators use technology to record their observations about teaching and learning. Later, this information in its aggregated form is used to drive data-rich conversations about instructional practices and strategies school wide.

Significance of the Study

According to state and federal education officials (NJDOE, 2014a; U.S. Department of Education Office of Educational Technology, 2017), practice in the collaborative skills will enable students to compete in a global society by preparing them to communicate, problem solve, and enhance their critical thinking. When students are provided the opportunity by their teachers to work together on a regular basis to develop positive interdependence, individual accountability, promotive interaction, social skills, and group processing abilities, they increase competence in such skills (Johnson & Johnson, 2009). Students will also improve in areas such as student empathy, accountability, and social interactions (Laguador, 2014; Lin, 2015). Although the literature includes several definitions and examples of student collaboration methods as well as their benefits (see Almulla, 2016; Davidson & Major, 2014; Lin, 2015; Pinho-Lopes & Macedo, 2016), there appears to be little information, based on my research, on

the planning strategies and motivation of highly effective high school teachers who implement such practices. Through my discussions with highly rated teachers at AHS, I hoped to discover their motivation for why they take the time to incorporate CL into their practice in a highly effective manner. I shared the findings with other teachers in the district to encourage them to include such practices in their classroom on a regular basis. By doing so, the students at AHS may be better practiced in using CL and, therefore, be better prepared to work in the collaborative environments of the colleges and workplaces they will enter.

Due to the importance of providing students regular practice with CL at highly effective levels, it is important to provide support to teachers not yet doing so. By making visible the motivation, strategies, and practices of highly effective teachers in the use of CL, teachers not currently incorporating such activities at advanced levels can begin to do so. I shared the information gathered during this study with district administrators to help them clarify expectations and encourage the inclusion of CL when they meet with staff members in learning teams or during professional conversations. The results of this project study may help AHS administrators provide ongoing professional development for high school teachers to support the creation and extension of CL classroom environments. Additionally, along with the PDC, a plan was developed to assist struggling teachers overcome challenges as they work to improve their use of these pedagogical practices. Furthermore, the research findings may be valuable to college preparation programs to help them identify possible supports and training

methods necessary to encourage pre-service teachers to include CL activities at a highly effective level early in their careers.

Research Questions

Students working together to create and share their learning is a critical skill that prepares young people for workplaces of the future. Although researchers indicate the need to include CL (see Cleaves, 2015; Gillies, 2014; Johnson, Johnson, & Smith, 2014) and teacher evaluation systems call for the inclusion of such practices (see Learning Sciences Marzano Center, 2017; McREL International, 2016; Strong & Associates Educational Consulting, LLC, 2017; The Danielson Group, 2017), most teachers at AHS are not enhancing their students' skills nor are they affording them the time and training to improve them as reported in the October 12, 2016, meeting minutes of the school's PDC. As identified through the examination of local data by district administrators and the local PDC, there is a small number of teachers who embed such practices into their curriculum, instruction, and assessments at highly effective levels. To make their strategies and motivation more transparent and share lessons these highly effective teachers have learned along the way, I conducted an investigation to answer the following questions:

RQ1: Why are teachers with highly effective ratings in McREL Standard 4F motivated to include CL as part of their classroom practices?

RQ2: How do teachers with highly effective ratings in McREL Standard 4F plan, implement, and assess CL in their classroom practices?

RQ3: What challenges have teachers with highly effective ratings in McREL Standard 4F encountered while implementing CL?

Conceptual Framework

Johnson and Johnson's (1994, 2009) social interdependence theory served as the conceptual framework for this study. The social interdependence theory framework supports the value of CL and the importance of the teacher's role in such practices. Researchers found that when students worked together in cooperative settings they were motivated to achieve greater outcomes than when they worked independently (Johnson et al., 2014; Tran, 2013). In CL groups, individuals work together with common goals and depend on each other to accomplish those goals (Johnson et al., 2014; Slavin 2014). Collaboration and positive interdependence within the groups, when developed in structured settings, allowed members to communicate and accomplish their identified goals (Laguador, 2014). Johnson and Johnson's (1999, 2009) research indicated that social interdependence produced higher achievement than individual efforts. To achieve the benefits social interdependence offers, teachers must structure the environment in a way that encourages students to work cooperatively and develop the skills that CL requires.

CL and social interdependence theory are not new pedagogical concepts. However, training and support are necessary for teachers to master the practices (Girvan, Conneely, and Tangney 2016). CL was not accepted widely until the 1980's. Yet, the idea of social interdependence theory and CL as an effective instructional practice can be traced back to the work of Lewin in 1935 and Deutsch in 1949 and 1962 (Johnson &

Johnson, 2009; Johnson et al., 2014). Johnson and Johnson (2009) uncovered support for CL in 11 decades of research, during which researchers conducted over 1200 studies. Johnson and Johnson (2009) found that for social interdependence to exist, individuals must be affected by both their own actions and the actions of others. Building on earlier research, Johnson and Johnson pointed to five elements necessary for effective CL implementation. Those elements are "positive interdependence, individual accountability, promotive interaction, the appropriate use of social skills, and group processing" (Johnson & Johnson, 2009, p. 366). Johnson and Johnson (1999) also provided guidance for teachers for the implementation of CL practices. Through their work, Johnson and Johnson helped bring the value of social interdependence and the methods to implement it through CL back into focus for teachers.

When teachers establish procedures and supports for the elements identified by Johnson and Johnson (2009), CL becomes a highly effective teaching and learning strategy (Gillies, 2014). To establish a sense of positive interdependence, teachers must require students to work together in a cooperative and interconnected manner (Fernandez-Rio, Sanz, Fernandez-Cando, & Santos 2017; Laguador, 2014). In this setting, individuals learn that each brings a unique contribution to the final project, and, without everyone's contributions, the students cannot complete the learning or activity (Tran, 2013). Using positive peer pressure, students can prevent any one individual from letting the group down.

Individual accountability calls for personal responsibility. Students must come to understand that they are not simply responsible for their own learning. They must also

assist and support others to assure that all members of the group succeed (Fernandez-Rio et al., 2017; Johnson & Johnson, 2009). Teachers make students accountable when they assess students and provide feedback to each individually (Frykedal & Chiriac, 2014; Lambert, Carter, & Lightbody, 2014). This type of feedback allows group members to identify and remediate gaps in understanding before the group is assessed as a whole (Johnson et al., 2014). CL helps students understand that they can achieve more together than they can independently.

Promotive interaction occurs when students verbally support each other's progress. Students interact positively while challenging conclusions, deliberating decisions, and presenting their findings (Gillies, 2016). These experiences expose them to differing points of view (Johnson & Johnson, 2009). Students enhance their social skills by supporting each other and jointly celebrating successes (Johnson et al., 2014). During these interactions, students employ cognitive processes when they explain the steps in problem-solving, take part in peer teaching, and make connections to prior knowledge and past experiences (Gillies, 2016; Johnson & Johnson, 2017; Slavin, 2014a). Promotive interaction allows students to support others even when they hold different beliefs or understandings. It also helps students understand their own reasoning processes.

Enhanced social skills for students are often a benefit when teachers implement CL. Communication skills taught through individual feedback by members of the group encourage students to make their messages clear and resolve conflicts in constructive ways adding to the building of positive relationships (Johnson & Johnson, 2009;

Opdecam & Everaert, 2018). Again, this is a process through which the teacher supplies guidance and feedback to enhance students' abilities to become active listeners and take part in civil discourse if the situation arises (Opdecam & Everaert, 2018; Slavin, 2014b). Students develop familiarity and trust in a way that allows them to accept and support each other as they create a community.

The final element that Johnson and Johnson (2009) considered essential was group processing. Students analyze their own contributions and those of the other group members to determine which actions were helpful and which were not (Johnson et al., 2014). Together they decide what should be kept, changed, or improved upon (Bertucci, Johnson, Johnson, & Conte, 2012; Johnson & Johnson, 2009). Johnson and Johnson reported that students working in cooperation who were instructed in group processing attained higher scores on "daily achievement, post instructional achievement, and retention measures" (p. 369) than students working cooperatively but omitting the group processing element. Teachers must establish the time for reflection and provide the procedures for students to follow. Whole class processing allows for additional thought and even deeper understanding (Tran, 2013). During group processing, members reflect on their successes and shortcomings. This practice allows for additional feedback and reinforcement of positive behaviors.

The reason I chose Johnson and Johnson's theory of social interdependence over the earlier works of Dewey, Vygotsky, or Bandura around social and cognitive learning was that in addition to the necessary process for successful CL, Johnson and Johnson included suggestions for teacher training and methods to structure CL opportunities in the

classroom. Through the framework of social interdependence, I examined the motivation, strategies, and practices of teachers rated highly effective on their 2016-2017 annual summative evaluation on McREL Standard 4F to help identify the methods they use, the benefits they identify, and the struggles they have faced and overcome. I compared the recommendations from Johnson and Johnson (2009) and Johnson et al. (2014) to those methods employed by the teachers under study here. The findings may help establish a program for encouraging teacher-to-teacher collaboration as current non-adopters acclimate to the new practices.

Review of the Literature

Administrators at AHS expect their teachers to not only teach their required content but also to incorporate effective use of CL into their practice to enhance opportunities for students to learn the content in a collaborative manner, according to the November 17, 2016 e-mail from the Assistant Superintendent to the PDC. In the classroom setting, teachers must be aware of both what they teach and the methods they use to teach it (Johnson & Johnson, 2017). Learning is a social process in which the individual learns independently at first and then that learning is enhanced by observing and modeling the behaviors of others while interacting with them (Sharma & Sharma, 2016; Vygotsky, 1978). To gain insight into the current literature on the use of CL in classroom settings, I read several books and conducted literature searches using online databases supplied by the Walden Library. The databases accessed included Education Source, Education Resources Information Center (ERIC), Sage Journals, and Google Scholar. The search terms I used included *benefits of cooperative learning, college and*

career expectations, collaborative learning, cooperative learning, collaboration, cooperative grouping, current classroom expectations, group work, resistance to cooperative learning, student collaboration, teachers' perceptions of cooperative learning, and *workplace expectations*. After reading numerous peer-reviewed journal articles and books, it was clear to me that Johnson and Johnson were the key theorists on CL. This understanding prompted me to run additional searches for *social interdependence theory*. The literature review is organized into seven topics: collaborative learning versus cooperative learning; current classroom, college, and career expectations; the teacher's role in cooperative learning; teacher motivation and student benefits of cooperative learning; challenges to the implementation of cooperative learning; and conflicting evidence to the value of cooperative learning.

Collaborative Learning Versus Cooperative Learning

It is critical to clarify the similarities and differences between the terms *collaborative learning* and *cooperative learning*. The terms are often used interchangeably to describe students working together in small groups or learning teams (Allan, 2016; Davidson & Major, 2014; Lin, 2015; Pinho-Lopes & Macedo, 2016). Collaborative learning and CL are both rooted in social constructivist theory, which originated with Vygotsky's 2011 theory of the zone of proximal development (ZPD). ZPD refers to the difference between a student's ability to solve a problem alone and the level at which he or she can do so when working collaboratively with more capable individuals (Vygotsky, 2011). Later, in the 2013 book *Learner-Centered Teaching*, Weimer also referred to the constructivist foundation upon which both collaborative

learning and CL are based. She described both collaborative learning and CL as methods used to allow students to work in groups to explore complex problems and construct new knowledge. However, she explained that CL included more "tightly prescribed tasks" (p. 23). Weimer is just one of the many authors (see Allan, 2016; Davidson & Major, 2014; Lin, 2015; Pinho-Lopes & Macedo, 2016) who pointed to similarities and differences in CL and collaborative practices.

In the McREL Evaluation System, the authors use the terms *collaboration* and *cooperation* to indicate instructional environments that are student-centered and foster active learning processes (McREL International, 2016). In the book *Classroom Instruction That Works* (Marzano, Pickering, & Pollock, 2001), which served as the foundational basis for McREL's Evaluation System, the authors called for CL but then referred to collaboration among learners. In the second edition of *Classroom Instruction That Works* (Dean, Hubbell, Pitler, & Stone, 2010), the authors posited that CL laid the foundation for student success in a world that depends on collaboration and cooperation. These are not the only authors whose use of the terms *CL* and *collaborative learning* can cause confusion (see Allan, 2016; Davidson & Major, 2014; Lin, 2015; Pinho-Lopes & Macedo, 2016). Many researchers define them differently.

Furthermore, the terms *collaborative learning* and *CL* both refer to active learning. Advocates for active learning reject the idea of passive reception of knowledge through lengthy lecture (Davidson & Major, 2014). Various researchers (see Coper & Robinson, 2014; Davidson & Major, 2014; Pinho-Lopes & Macedo, 2016) discussed collaborative learning and CL as active learning practices but used the terms in ways that

were unclear and difficult to differentiate. The main features of both practices require students to learn new knowledge by working in small groups, developing a deeper understanding through social activity, discourse, and reflection (Davidson & Major, 2014; Pinho-Lopes & Macedo, 2016). In both collaborative learning and CL, the teacher acts as the facilitator (Gillies, 2014; Kaendler, Wiedmann, Leuders, Rummel, & Spada, 2016; Molla, 2015). Cooper and Robinson (2014) pointed directly to teacher involvement in structuring the teams and assigning the tasks as the major difference between CL and collaborative learning. Both Pinho-Lopes and Macedo (2016) and Cooper and Robinson (2014) indicated that CL was more structured and teacher directed than collaborative learning.

In their 2014 literature review, Davidson and Major compared CL, collaborative learning, and problem-based learning. Davidson and Major's findings indicated that all three were forms of small group learning; however, beginning with the more structured and scaffolded method of CL might prepare students better to succeed later in the more independent practices of collaborative learning and problem-based learning. Pinho-Lopes and Macedo (2016) indicated that the extent to which students were trained and experienced in working together determined if CL or collaborative learning was more appropriate. Davidson and Major stressed that the critical factor in cooperative learning was that students were working together, not simply working on the same project. In addition, Pinho-Lopes and Macedo; Davidson and Major; and Cooper and Robinson (2014) all referenced Johnson and Johnson's (1990) theory of social interdependence and identified the inclusion of the five elements as critical parts of CL which differentiated it

from collaborative learning Including Johnson and Johnsons' five key elements and describing CL as more structured and dependent upon teacher involvement, helps to clarify some of the key differences between CL and collaborative learning.

The literature on CL is more extensive, and the structure and processes are more clearly defined possibly making it more suitable for implementation in the high school classroom. CL moves the focus from the information being taught to information and processes being learned, shifting the responsibility from the teacher to the student (Buchs et al., 2017). CL is useful at the foundational knowledge level where students are developing new knowledge and sharing it within the group (Pinho-Lopes & Macedo, 2016). Small-group structure, conversation, and enhanced student achievement are still fundamental to this type of activity, yet it tends to include additional scaffolding and greater student accountability (Coper & Robinson, 2014). In CL, the use of individual accountability and group rewards simultaneously builds individual responsibility and a sense of community (Sencibaugh & Sencibaugh, 2016; Slavin, 2014a). Johnson, Johnson, and Smith (1991) found that students maximized their learning as they cooperated, which resulted in greater learning than they would have gained individually. CL is a complicated practice that involves supporting students while at the same time allowing them to work through their learning together.

Semantics may play a part in the confusion. Allan (2016) claimed that it could simply be a matter of how the educators used the term *collaboration*. Collaborative learning, where the intent is to socially construct knowledge and find new and innovative solutions to problems, fits better in the social sciences than it does in the science, math,

and engineering fields (Davidson & Major, 2014; Weimer, 2013). Collaboration in the humanities classroom could count as CL in the STEM classroom. When Pinho-Lopes and Macedo (2016) compared college engineering courses employing either collaborative or CL models, results indicated that although students in the collaborative learning structure felt freer to organize their roles within the project, it was more difficult to coordinate the information because the areas of responsibility often overlapped. The focus of collaborative learning is more likely to be on non-foundational knowledge at the college level where the group members are better prepared to take responsibility for dividing the workload as opposed to teachers assigning the roles (Pinho-Lopes & Macedo, 2016). True collaborative learning may be beyond the scope of the high school classroom.

Current Classroom, College, and Career Expectations

Elementary and high school students today often sit in teacher lead classrooms where information comes from textbooks and PowerPoints while outside the classroom their lives are rich with multimedia and online social networks. Outside of school hours, students collaborate with others around the world and learn about things that interest them. In the 2010 U.S. Department of Education's report, *Transforming American Education,* one of the four major areas identified as having the greatest impact on American education was the states adoptions of "standards and assessments that prepare students to succeed in college and the workplace" (p. 3). In 2013, when Gallup, Microsoft Partners in Learning, and the Pearson Foundation developed their 21st century skills index, among the areas listed linking to success at work were collaboration, skilled

communication, and self-regulation. According to their findings, fluency in these skills is necessary for today's students to meet the challenges awaiting them in future workplaces (Levy & Sidhu, 2013). Although collaboration in the workplace often includes online activities, today's classrooms should provide the opportunity for students to take part in in-person collaboration as well (Moore, 2016). Opportunities for real-world in-person collaboration prepares students by encouraging the cultivation of relationships and a level of interdependence in the classroom

High school teachers can provide their students opportunities to prepare for college and career challenges by allowing them to reach beyond their classroom walls while still supporting them in a CL setting. Current college offerings include numerous online programs and opportunities for students to collaborate outside the normal school hours thus preparing the students for the workplaces they will enter (Gratton 2011; Moore, 2016). In her report, Moore (2016) included a comparison of collaboration and cooperation that reflected similar ideas to those covered in the last section of this literature review. However, because her focus was on the college level, she stressed the need for more collaborative activities which were "student-centered and ad hoc" (p. 239) in higher level courses and cooperative activities to help novice students in the general education courses. Both at the high school and college level, students need the opportunity to work collaboratively with others to gain real-world experiences and practice the skills that future employers will require of them (Allan, 2016; Kaufman, 2013; Moore, 2016. However, practice with CL at the foundational level, be it in high

school or college, may prepare students for the additional responsibility of collaborative work.

The Teacher's Role in Cooperative Learning

The teacher's role in Cl appears critical. Laguador (2014) and Allan (2016) indicated that CL required teachers to determine the learning objectives, plan the appropriate outcomes, prepare group activities and procedures, organize the groups, and in most cases, assign the tasks within the groups. Weimer's (2013) learner-centered concept closely aligned with CL in that she described a teacher's role as a facilitator, which is a slightly different concept than that of a supporter she described when referring to collaborative learning environments and vastly different that of a director in direct instruction. In kind, Kaendler, Wiedmann, Leuders, Rummel, and Spada (2016) identified five competencies that teachers required to support successful collaborative learning: (a) planning, (b) monitoring, (c) intervening, (d) supporting, and (e) reflecting. These competencies loosely aligned with Johnson and Johnson's (2009) social interdependence theory. Kaendler et al. began with planning. Here the teacher determined the objectives and designed the activity in which students worked together. Once the activity began, the teacher then closely monitored student interaction, intervened only if necessary, and added support to clarify or redirect the conversations, thus creating positive interdependence, promotive interaction, and proper use of social skills. The next teacher action required was support for students to consolidate their findings to make understandings clear, which was similar to Johnson and Johnson's call for individual accountability and group processing. Kaendler et al. included reflection as

the final competency. At this phase, the teacher employed self-reflection to evaluate the entire process. The teacher looked at student behaviors, as well as student learning outcomes to determine the success of the activity and identify adjustments that might be necessary in the future. Although Kaendler et al. used the term *collaborative learning*, they did include the need for strong teacher designed structure and included processes like Johnson and Johnson's social interdependence theory indicating more of a CL environment.

Teachers should find a balance between autonomy and control when implementing CL; flexibility is essential. Not only do teachers need to construct the tasks, they must do so with specific student learning needs and objectives in mind (Allan, 2016). Instructing students ahead of time in the processes involved in CL combined with group rewards proved more successful than either strategy alone (Slavin, 2014b). Teachers who modeled specific strategies like strategic questioning helped students develop similar skill sets that they could use in their CL activities. These activities created opportunities for deeper learning (Sharan, 2014). A teacher's ability to guide and support his or her students is central to successful CL.

Upon further examination of the literature, there was evidence of differences in the fundamental roles of the teacher when comparing CL and collaborative learning environments. Weimer (2013) described both collaborative and cooperative group work as constructivist in nature but clarified the main difference as the level of independent learning taking place within the student groups. Teachers in collaborative learning classroom settings support learning rather than direct it (Cooper &Robinson, 2014;

Weimer, 2013). This support is present to some extent in both collaborative and cooperative classrooms. However, in the cooperative classroom, the teacher is more involved with the assignment of responsibilities (Allan, 2016). In CL, teachers may employ lecture and direct instruction, but they do so only after students become aware of their need for additional information or clarification (Weimer, 2013). Pinho-Lopes and Macedo (2016) also pointed to the style, function, and level of involvement of the teachers as one of the contrasting points. In collaborative learning, responsibility for learning lies more heavily on the student (Allan, 2016; Pinho-Lopes and Macedo, 2016). Students are more likely to be responsible for only a portion of the final product rather than share responsibility for the entire outcome (Davidson & Major, 2014) whereas in CL, the teacher assists with the breakdown and assignment of the parts of the project (Weimer, 2013). Weimer also stressed that students were responsible for seeing that all members of the group had learned. Johnson, Johnson, and Smith (2014) clarified the differences by claiming that collaborative learning was much less structured than CL. Collaborative learning usually includes vague directions and, although the teacher may assign the students to groups, they do not assign the roles to students (Johnson et al., 2014). Cooperative learning requires more guidance from the teacher than collaborative learning while at the same time allowing students some autonomy.

A CL classroom is student-centered, active, and, at times, can appear loud and unorganized. Teachers must create assignments that include specific tasks and involve students at all ability levels (Kaufman, 2013; Sharan, 2014). These assignments can be completed in pairs or small groups. It can take place for brief moments at the end of a

class period, last for days, or for the duration of a unit. To encourage students to work together to enhance their learning in ways that allow for autonomy and inquiry, teachers may need to restructure existing lessons. It is important for teachers to structure the tasks and provide the supports necessary to keep students on task and goal oriented (Laguador, 2014). The teacher should create a positive, safe environment in which students are encouraged to ask questions and solve problems without relying solely on the teacher for validation (Kocabas & Erbil, 2017). A strong system of both individual and group accountability and rewards must be in place, so students acquire a sense of responsibility to the group as well (Buchs et al., 2017; Tran, 2013). To attain the group reward, each member of the group must individually attain their goal or complete their assigned task and then assure that all members of their group have the support they need to complete their tasks (Slavin, 2014b). Students should feel mutually responsible for each other's success (Buchs et al., 2017). These types of interactions may require additional planning, scaffolding, and cuing by the teacher (Gillies, 2016). Teachers who are resistant to change or struggle to give up control may find it difficult to implement CL in its true form.

However, CL is not an easy process to implement. Teachers need training not only in their content area but also in the procedures and attitudes required to implement pedagogical practices such as CL in an effective manner (Johnson & Johnson, 2017). An understanding of processes and strategies needed to teach the skills, plan the lessons, create the learning environment, and identify when to and when not to intervene are essential to support students in a CL environment (Johnson & Johnson, 2017).

Continuous monitoring and evaluation of student interactions are necessary (Kaendler et al., 2016). Hennessey and Dionigi (2013) conducted a qualitative study to see how teachers' understandings of Johnson and Johnson's (1990) five critical elements of CL affected their implementation of the practice. In the Hennessey and Dionigi study, twelve Australian primary grade teachers were recruited using snowball sampling. Semistructured interviews were conducted to gain an understanding of the CL terms and the factors the teachers felt affected the implementation of CL. Teachers with limited knowledge of CL indicated problems with planning and control. Teachers comfort and success with CL implementation appeared directly aligned to their familiarity and experience with the elements of social interdependence (Hennessey & Dionigi, 2013). In a successful CL classroom, the teacher walks a fine line between facilitating and monitoring student interaction within their groups, which requires additional professional development and support.

Not only do teachers in CL classrooms need training and support, they must in turn provide training and support to their students. With the implementation of CL, a teacher's place may no longer be square in the front of the classroom; however, he or she certainly cannot sit passively in the back of the classroom either. Students often struggle with the skills and expectations involved in working as members of a group. As Gilles (2014) reported, "placing students in groups and expecting them to work together will not necessarily promote cooperation" (p. 129). Literature indicated that students were most successful when the teacher instructed them in the appropriate use of social skills and expectations of cooperative group work (Johnson & Johnson, 2009; Johnson & Johnson,

2017). Training students in skills such as active listening, giving clear explanations and strong feedback without putdowns, and respecting all members of the group was shown to enhance learning and produce better outcomes during CL (Gillies, 2014; Sencibaugh & Sencibaugh, 2016). Limited teacher involvement in group dynamics can lead to increased student autonomy and task involvement that could enhance student growth both academically and socially (Surian & Damini, 2014). However, if the teacher has not trained the students appropriately in the expected behaviors and acceptance of responsibility, it can lead to competition and conflict (Johnson et al., 2014). Teachers in successful CL classrooms must provide safe environments that allow students to take risks. Students should feel encouraged to dig deeper to find better or more detailed answers. They should also believe that they could be wrong without feeling defeated.

By establishing a safe environment, teachers create a community within their classroom. Teachers who use CL effectively provide opportunities for students to listen respectfully in a way that allows them to hear each other and value the findings of others (Sharan, 2014). Allowing time for both small group and whole class reflection and discussion addresses Johnson and Johnson's (2009; 2017) call for group processing as one of the five essential elements for successful CL. When Whitener (2016) implemented CL into a high school band class employing Johnson and Johnson's (2009) five critical elements as his foundation, he found that "frequent and regular group processing [improved] the group's effectiveness" (Whitener, 2016, p. 229). When teachers instruct their students in the process of reflection and give them the time to

incorporate the practice regularly, it allows students to correct errors and support each other throughout their learning processes.

Teacher Motivation and Student Benefits of Cooperative Learning

When examining specific factors that motivate teachers to employ CL, the literature search results were limited. It appeared that student benefits were the primary focus for most teachers. When Almulla et al. (2004) assessed teacher's motivation, the teachers rated improving students' social and academic skills highest among their answers with improving students' self-esteem and motivation closely following. However, I was able to locate an older study that focused specifically on teachers' motivation to adopt CL practices. Abrami, Poulsen, and Chambers (2004) conducted a study in which they surveyed over 900 teachers and asked them to self-assess the frequency and quality of the CL used in their classrooms as well as the reasons that affected their decisions to integrate it into their practice. The researchers reported that teachers who felt adequately trained and confident in their ability to implement CL were willing to implement it in an ongoing fashion. In the Abrami et al. study, the teachers expressed confidence in their classroom management skills and believed that their students could acquire the skills necessary to work effectively in groups. When looking at benefits to students from the use of CL, there was a plethora of data

CL results in numerous student benefits. Among the qualities CL enhances are student empathy, accountability, and social skills (Baloche & Brody, 2017). Researchers reported CL to be effective in not only helping students make academic gains but also in improving positive interpersonal relationships and self-esteem while enhancing the

acceptance of others (Laguador, 2014; Lin, 2015). Students develop or improve social skills while taking responsibility for learning and respecting the contributions of each group member (Davidson & Major, 2014). In addition, the research showed that it positively affected creative thinking and problem solving (Baloche & Brody, 2017). Exposure to CL better prepares students to face real-world challenges as this type of learning often entails solving problems through the sharing of opinions and consideration of differing points of view (Pinho-Lopes & Macedo, 2016). When students work in small group settings, they have more time to process their thoughts and practice their responses leading to a decreased anxiety. Anxiety often serves as a deterrent to student learning (Almulla, 2016). In general, CL can lead to greater student enjoyment in learning and support for learners of all types.

In a CL classroom with a highly effective teacher, students receive the type and amount of support they need. Sencibaugh and Sencibaugh (2016) reviewed six earlier studies concerning the effect of CL on students with disabilities. The studies showed that properly structured CL activities increased student achievement across all subjects and grade spans when working with students with disabilities and when incorporated into classrooms with students of varying abilities, ethnicities, and socio-economic backgrounds. Students struggling with language acquisition had more opportunities to practice the skills of summarizing, paraphrasing, and clarifying when working in small group settings in a collaborative way (Sencibaugh & Sencibaugh 2016). Research showed that in teacher-centered classrooms students' opportunities to speak or respond were decreased by 60-70% (Lin, 2015). Language and communicative skills improve

when students are exposed to the different perspectives of classmates while discussing, questioning, and processing their own learning in this type of social setting (Lin, 2015). During this type of interaction, comprehension, and internalization of concepts is enhanced (Lin, 2015). By developing a sense of interdependence, students not only ensure their own learning but also guarantee the learning of all members of the group (Johnson et al., 2014, Nokes-Malach et al., 2015). This setting supports both the academic and social needs of struggling learners as they see themselves as members of a learning community.

The use of positive interdependence and promotive interaction enhances students' ability to communicate and work together for a common goal. CL motivates students to work together and create safe spaces in which every member of the group can learn (Nokes-Malach et al., 2015). Positive interdependence enforces the belief that the success of the individual is dependent on the success of the group thereby lessening the focus on competitiveness and enhancing cooperative efforts (Johnson et al., 2014). In the smaller group setting, students may be more comfortable. Feeling more supported, they are more inclined to learn from each other and take risks with expressing their understandings and asking clarifying questions (Lin, 2015; Almulla, 2016). Almulla's (2016) study also indicated that, when working in small groups, the interaction between learners is a successful instructional strategy. The discussion and questioning that goes on within the group tend to promote better learning and greater retention of information learned. As students engage in conversation about the subject matter, they create deeper understandings (Almulla, 2016). When CL is in use, students support each other by

encouraging each other's learning and celebrating joint successes (Johnson et al., 2014). Through the implementation of CL, teachers encourage all members of the group be contributing members by requiring personal accountability and accountability to the community.

Among other benefits, student use of CL increased time on task due to improved student motivation (Almulla, 2016). Because students are engaged and motivated to learn, they find activities more meaningful than when a lecture or other teacher-centered pedagogies are employed resulting in positive classroom behavior (Hentges, 2016). When implemented in a highly effective manner, CL increases students' motivation and knowledge of the subject matter at hand while at the same time increasing their understanding of the value of collaboration and community.

Challenges to Implementation of Cooperative Learning

CL can be challenging for teachers to oversee and assess. Even though teacher evaluation systems call for CL (Learning Sciences Marzano Center, 2017; McREL International, 2016; Strong & Associates Educational Consulting, LLC, 2017; The Danielson Group, 2017), teachers often struggle with its implementation. Hennessey and Dionigi (2013) found that teachers underutilized cooperative grouping for several reasons including lack of context-specific training. Teachers must learn to navigate factors specific to their setting including students' age and behavior, students' previous exposure to group work, class size, and time limitations. Teachers need to be trained in the processes of CL. They need time to become comfortable with the practices before they can implement them successfully (see Buchs et al., 2017; Kocabas & Erbil, 2017;

Laguador, 2014). Due to lack of understanding and appreciation for the nuances of cooperative group work, some teachers assume that the traditional method of grouping, placing students in close proximity while they complete parallel work, is sufficient (Hennessey & Dionigi, 2013). Implementing CL requires additional training, clarification, and practice time for teachers and students.

During CL, teachers monitor and support multiple groups of students who are simultaneously engaged in various activities. The more groups in the classroom, the more skilled the teacher must be in dividing his or her attention. The teacher must assure that students remain on task while at the same time allow students to explore and construct their own knowledge and that of their groups (Kaendler et al., 2016). Pinho-Lopes and Macedo (2016) found that due to the division of responsibility, if students did not share their learning, gaps in knowledge and understanding occurred. CL requires an experienced, flexible teacher who can facilitate multiple student interactions simultaneously (Kaendler et al., 2016). Baloche and Brody's 2017 study also discussed concern for the decrease in control and predictability among the issues that contribute to a teacher's hesitance to implement CL. In a CL classroom, the teacher must balance student autonomy with teacher guidance to ensure that all students are learning.

The time required to implement CL successfully, both during and beyond the school day, is a teacher concern. Implementation of CL requires more out of classroom time for teachers to prepare projects, organize activities, and plan the groups (Pinho-Lopes & Macedo, 2016). Weimer (2013) expressed concern for the "inefficiency of letting students discover knowledge for themselves" (p. 22). Teachers must contend with

the unpredictability of student-led learning and cooperative research in a way that still allows for student autonomy (Kocabas & Erbil, 2017). Additionally, teachers must balance the student's need to learn with the teacher's need to teach (Weimer, 2013). Teachers are required to become facilitators rather than presenters. However, teachers must support the students with scaffolding in a way that does not allow them to go too far off track. Allowing students to learn takes more time than just telling them what they need to know.

Teachers who are hesitant to implement CL report concerns about assessing students' learning and aligning the cooperative activities within their already packed curriculum (Buchs et al., 2017). Creating assessments that call for both individual and group accountability can be challenging for teachers (Sharan, 2014). It can be problematic for teachers to design lessons that include learning activates that ensure genuine cooperation at a level that is suited to their students' cooperative skills (Sharan, 2014). The 2017 Baloche and Brody study also included concern for individual student accountability. It can be a time-consuming task to assess teamwork in a way that holds each member accountable and evaluates both academic and cooperative objectives (Buchs et al., 2017). Two student types can contribute to the assessment struggle teachers face. The first is the student who feels the need to take charge and control the input of others. The other, the *social loafer*, is the student who sits back and either allows or coerces the stronger or more motivated students to do all the work (Laguador, 2014). Communication may be difficult if students feel either socially or academically

intimidated by other members of their group (Soetanto & MacDonald, 2017). Group work can be stressful for students who are not comfortable working in groups.

Conflicting Evidence Regarding the Value of Cooperative Learning

Not all research supports the use of CL. There is evidence that contradicts some of the previous claims, or at least suggests a limited use of CL might be best for all concerned. After a review of research, Nokes-Malach, Richey, and Gadgil (2015) suggested that although collaboration has its benefits in some situations, teachers must evaluate the specific task when deciding if independent or group work is best. Nokes-Malach et al. found that if the members of the group could complete a task independently, there was no additional benefit from collaboration. In some situations, forced collaboration had negative results in that the learner had to wait to respond, or relied on others to do so allowing them to disengage from the discussion resulting in *social loafing* (Nokes-Malach et al., 2015). The researchers also found negative results when learners felt that they were less competent than other members of the group were. Fear of being wrong or being judged by peers kept some from participating (Nokes-Malach et al., 2015). Nokes-Malach, et al. did not totally negate the value of group work, but instead issued a warning against its universal use. Teachers who implement CL must know when it is appropriate to do so.

Other researchers challenged the value of CL as well. Krahenbuhl (2016) vehemently argued against the educational community compelling teachers to employ constructivist methods such as CL. The Kirschner, Sweller, and Clark 2006 study indicated that although guided instruction was more successful for student learning, there

was some value to CL when procedures were in place and cooperation was structured. Willingham (2009) reported that student learning was negatively impacted when students were allowed to hold onto misconceptions due to unguided inquiry. Fortunately, the issues these researchers put forth may be mitigated when CL is properly designed and implemented and all five elements of Johnson and Johnson's (2009) theory of social interdependence are included.

When examining research, one must be careful to look at similar settings and topics of investigation. In most studies of this type, a group participating in CL was compared to another group participating in a lecture type lesson. Emerson, English, and McGoldrick (2015) conducted a quasi-experimental study in which they isolated the CL. In that case, they compared independent problem solving with group problem solving and found that there was no difference recorded on measures of student interest, attitudes, or grades. That study was the only one I found that specifically claimed to look to isolate the cooperative aspect of this type of learning, but it does point to the possibility of conflicting evidence.

Implications

The purpose of this qualitative case study was to examine the motivation, strategies, and practices employed by a representative group of teachers at AHS who were rated highly effective on their 2016-2017 annual summative evaluation in the implementation of CL. Using one-on-one, semistructured interviews, and document reviews, I hoped to gain insight into the teachers' motivation to use CL. I also looked to make visible the strategies they use to plan, implement, and assess students during the

process. Through this case study, I also examined challenges teachers indicated that they encountered during the implementation of CL.

The results of this project study lead to areas of on-going professional development and training sessions at both the classroom teacher and pre-service teacher levels. As a result of the findings from this study, I have designed a 3-day professional development for high school teachers to support the creation and extension of CL classroom environments. Included also is the suggestion for the development of ongoing learning teams to assist struggling teachers in overcoming challenges as they work to improve their use of these pedagogical practices. I shared the information gathered with district administrators to help them clarify expectations and identify and encourage the nuances of true CL when meeting with staff members in content area learning teams or during professional conversations. Furthermore, the research findings may be shared with college preparation programs to help them identify possible supports and training methods necessary to encourage pre-service teachers to include CL activities at a highly effective level early in their careers.

Additional teacher training may add to the frequency and quality of student opportunities to employ CL during their high school years. In addition, by gaining a better understanding of the challenges and rewards of this type of teaching and sharing that information with administrators and educator preparation programs, those administrators and educators can provide further support to individuals looking to introduce the practice on a more regular basis and at a higher level of effectiveness. Finally, making administrators more aware of the elements of effective CL may enhance

professional conversations around the topic while making evaluating such practices more consistent.

Summary

In Section 1, I examined the local problem at AHS pertaining to the limited number of teachers implementing CL in their instructional practices at highly effective levels. The section included the rationale for the study, a definition of terms used, the study's significance, and the research questions that guided the study. Included here I also presented a detailed look at the conceptual framework that guided this study along with a literature review of research articles that helped identify the key issues associated with the topic. Section 2 of this proposal includes information about the processes I employed to collect and analyze data and report the findings.

Section 2: The Methodology

Introduction

The purpose of this qualitative case study was to examine the motivation, strategies, and practices employed by a representative group of teachers who were rated highly effective on their 2016-2017 annual summative evaluation in the implementation of CL. Also included was the exploration of challenges these teachers have encountered while implementing those strategies. When teachers successfully include CL with student collaboration as part of their curriculum, instruction, and assessment practices, they are answering the call from U.S. college and industry leaders to prepare individuals as members of the future workforce, according to researchers (Bedwell, Fiore, & Salas, 2014; Mcglynn & Kozlowski, 2016; U.S. Department of Education Office of Educational Technology, 2017). This section includes information regarding the methodology and research design and participant selection and protection processes, as well as the data collection and analysis methods.

In conducting my investigation, I sought to answer the following questions:

RQ1: Why are teachers with highly effective ratings in McREL Standard 4F motivated to include CL in their classrooms?

RQ2: How do teachers with highly effective ratings in McREL Standard 4F plan, implement, and assess CL in their classrooms?

RQ3: What challenges have teachers with highly effective ratings in McREL Standard 4F encountered while implementing CL in their classroom?

Researchers conducting qualitative studies often gather data using semistructured individual interviews and document reviews (Baskarada, 2014). Both methods aligned well with the three research questions underpinning this investigation. With RQ1, I investigated why highly effective teachers are motivated to include CL in their classroom practices. Motivation was the subject of questions for the semistructured interview (see Appendix B). RQ2 asked how teachers plan, implement, and assess CL in their classrooms. I collected this information during the interviews and during the document review of lesson plans. I used the themes I derived from the interviews to guide the format for the document review. Finally, RQ3 addressed challenges teachers encountered while implementing CL. Additional interview questions focused on these challenges (see Appendix B).

Qualitative Research Design and Approach

The purpose of this qualitative case study was to explore the motivation, strategies, and practices of a representative group of AHS's teachers who were rated highly effective on their 2016-2017 annual summative evaluation in the use of CL. Researchers use qualitative investigation when they are interested in gaining a deeper understanding of the "attitudes and motivations behind human behaviors" (Rotherham & Willingham, 2009, p. 510). According to Baskarada (2014) and Yin (2014), a case study design best addresses *how* and *why* questions like those in my study. Yin also indicated that case studies allow the researcher to examine the participants in their real-world context. Therefore, a case study permits the participants to relate directly to their personal experiences rather than attempting to respond to fictitious situations.

Researchers have primarily used quantitative methods in much of the research done on CL (Bertucci, Johnson, Johnson, & Conte, 2012; Buchs, Fillippou, Pulfrey, & Volpe, 2017; Kaendler et al. 2016). These studies included large numbers of participants. Furthermore, the researchers sought to quantify the results of experiments or interventions. In this qualitative case study, instead, I gathered detailed information about the motivation and strategies used by a small group of teachers.

Case studies are useful when examining complex situations requiring extensive data collection involving multiple sources. Illustrating this point, Buck, Cook, and Carter (2016) conducted a study in which they investigated the experiences of middle school science teachers as they implemented new pedagogical practices. They examined teacher and student experiences during the implementation of new curricula. In that case, as in others (see Almulla, 2016; Pinho-Lopes & Macedo, 2016), the use of a case-study design was appropriate. The case study design allowed the researchers to investigate and report on the *how* and *why* of the topic at hand when there were "more variables of interest than data points" (Yin, 2014, p. 17), and data were collected from multiple sources. By conducting a case study, I will gain insights into the many variables in *how* the teachers at AHS use CL and *why* they are motivated to use it.

Use of a case-study design allows the researcher to conduct the study on a specific topic, at a particular location, during a limited period of time. The difference between a case study and other qualitative designs is that a case study enables examination of a bounded system allowing for an in-depth investigation of a phenomenon within its real-world setting (Yin, 2014). In this case study, the focus of the research was on teachers

rated highly effective in McREL Standard 4F on their 2016-2017 annual summative evaluation at AHS. The study took place during the 2018 spring semester.

When determining the design of this study, I considered several qualitative designs in addition to a case study. In a study at a mid-Atlantic college, Allan (2016) conducted an ethnography, which is defined by Creswell (2012) as the examination of a shared culture, belief system, or language among a group. In Allan's study, the researcher's goal was to identify the culture of an undergraduate architecture classroom. Allan served as a participant-observer and embedded himself into the classroom environment on a regular basis for one semester. That design was not appropriate here as I focused on the strategies and motivations of the teachers, which were better gathered through interviews, and document reviews. Narrative inquiry, which involves examination of first-person accounts of the events in a person's life (Merriam & Tisdell, 2016), was not appropriate either as my focus in this study was on a broader phenomenon rather than on an individual's story. Neither of these alternatives fit this study because I sought to collect and report on multiple sources of data from a bounded system in rich detail (see Yin, 2016). Therefore, I concluded that a case study was the appropriate design.

Participants

I used homogeneous, purposeful sampling to select specific participants who fit the criteria desired for this investigation. Researchers conducting qualitative research often use purposeful sampling (Merriam & Tisdell, 2016). This sampling technique allows the researcher to choose individuals who are knowledgeable and experienced in

the topic under investigation and are available and willing to participate (Palinkas et al., 2015; Palys, 2008). A researcher employs purposeful sampling when she or he wishes to gain a deeper understanding from a specific individual or group of individuals (Patton, 2015). Random sampling is more applicable when the researcher is involved in quantitative work and is seeking to generalize the findings (Merriam & Tisdell, 2016; Palinkas et al., 2015). Homogeneous sampling, which is also commonly used in qualitative case studies, allows for limited variation in participants' range of qualifications (Palinkas et al., 2015; Palys, 2008). Employing a homogeneous sampling method allowed me to select teachers with highly effective ratings in McREL Standard 4F and who were astute in the topic under examination in this study.

Criteria for Selecting Participants

Participants were teachers currently teaching at AHS who were rated highly effective by their administrators on their 2016-2017 annual summative evaluation on McREL Standard 4F. These teachers had implemented CL and student collaboration at a highly effective level as determined by their annual evaluation. Personal communication with the assistant superintendent on July 31, 2017 revealed that, although there were 85 full-time teachers in AHS at the time of my investigation, district records indicated that only 75 of those teachers were employed and evaluated by administrators during the 2016-2017 school year. At the end of the 2016-2017 school year, 42% of the teachers were rated highly effective on McREL Standard 4F according to the July 12, 2017 meeting minutes of the school's PDC). Thus, the population for this study was 31 teachers. I included approximately one third of the population (10 teachers) as

participants in this study, which was a manageable number and one that provided sufficient data, I believe, to reach saturation. Creswell (2012) indicated that a sample size of four to 10 participants is often employed to gain an in-depth understanding of the topic during a case study.

I began the participant selection process by obtaining a list of teachers rated highly effective on Standard 4F on their 2016-2017 annual summative evaluation and on their prior 2 years' annual summative evaluation scores in the same standard. I obtained written confirmation from the assistant superintendent that she would share this confidential information with me (see Appendix D). From the list supplied by her, I identified the teachers with the highest averaged rating in Standard 4F for the 3-year period of 2015-2017. There were 15 teachers with similar ratings; however, a few of them taught in the same department. I selected the 10 teachers who represented the widest variation of grade level and content areas taught and contacted them using their district e-mail addresses.

The initial individual e-mail contained a brief explanation of the study and an invitation for each teacher to participate. In this e-mail, I requested prospective participants' personal e-mail addresses to use for all future contact using my Walden student e-mail account. When two teachers refused my initial request, I contacted the next two teachers on the list maintaining the same diversity in grade level and content areas taught. I sent an individual follow-up e-mail to everyone who responded expressing interest. This e-mail message contained my personal contact information and an offer to meet and answer any further questions. Also included in the e-mail was a

consent form that the participant was asked to read and respond to me with any concerns. No one requested the additional meeting or clarification.

In the original e-mail, I indicated that I would have a printed copy of the consent form for participants to sign when we met for the interview if they were willing to participate in the study. Within a few days, I had a commitment from 10 teachers. A larger sample size would make it difficult to go in-depth with each participant and would be unlikely to produce additional insights (Feustel, 2015). This sample size did allow for saturation. Because the results of qualitative case studies are not usually meant to be generalized, a larger sample size was not necessary (Baskarada, 2014). This sample was representative of teachers in grades 9-12 and various content areas within the high school.

Access to Participants

Through e-mail communication dated July 31, 2017, I procured written permission from the assistant superintendent to conduct the study at AHS. The permission included the use of district e-mail to make the initial contact with possible participants. Shortly after our e-mail communication, I received a formal letter of cooperation from the assistant superintendent (see Appendix D). The assistant superintendent also agreed, in writing, to supply me with the list of teachers who fit the criteria and the prior 2 years of evaluation scores in McREL Standard 4F for those willing to participate in the study (see Appendix D). During our initial conversations, the assistant superintendent was informed that they would not be privy to any specific information gathered from individuals in the study. This information was reinforced in the formal Letter of Cooperation (see Appendix D). I also received approval from my

Walden Review Committee and the Institutional Review Board (IRB) at Walden (#04-06-18-0562021).

Researcher-Participant Working Relationship

The site for my study was at the high school where I teach. At the time of my investigation, 85 classroom teachers were employed at AHS as reported by the assistant superintendent in a staff communication on September 19, 2017. Although I had taught in the district for 14 years, I was new to the high school building where I conducted my study. The teachers in the high school knew me from joint professional development activities over the years, but I did not have a close personal relationship with any of them. I was a member of the Social Studies Department but was the only one teaching the two courses for which I was responsible at the time of the study. I did not work directly with any possible participants in this study in a collaborative manner on a regular basis. I did not work in any supervisory position in the district, so there were no conflicts to note. I did not have any district staffs' family members as students in my classes. Nor did I have any children of my own in AHS. No one else was conducting research in the district at the time of my study, so I did not interfere with anyone else's work or timetables.

From the initial contact, I worked to create a positive researcher-participant working relationship by showing respect for the participants' knowledge and appreciation for their time and willingness to participate. I maintained open and honest communication with them and proved my trustworthiness by keeping their responses confidential. I answered their questions truthfully and any misunderstandings were resolved as soon as they occurred. Participants were made aware of their roles and

responsibilities (see Creswell, 2012) and assured that our interactions would be limited to one hour and at their convenience. Initially, they were informed that participation would include a 45-60-minute interview, a review of two-weeks of lesson plans, and possible the participation in a 60-75-minute focus group. However, once I completed and transcribed the interviews and reviewed the lesson plans, I believed that saturation had been reached. Due to the ongoing analyzation of my results, I was able to identify common ideas and responses. Themes were developing, and the research questions had been answered. Because the interviews were semistructured, not only were the questions answered, but additional data was collected about teachers' processes and challenges, which enhanced the development of themes.

In most cases, the teachers shared similar issues and methods for managing the issues and challenges they faced; or more importantly, they revealed that they lacked ways of addressing the challenges. Since the data I gathered and analyzed revealed what was needed to help other teachers improve their use of CL, I contacted my committee, requested, and received permission to remove the focus group from the data collection process. I verified with each participant that they would be available to answer any clarifying questions if necessary after the interviews and document reviews were completed. At all times, I worked to make the participants feel comfortable during the process.

Establishing Expectations and Ethical Protections

After the initial contact and follow-up e-mail with the consent form, I again offered to meet with each teacher individually before the start of the study to clarify

information and answer any additional questions. Only two asked for additional clarification. Both simply wanted assurance of the limited time involvement required. I reiterated the details of the study and committed to limiting the interview to 45-60-minutes and to hold those interviews within the following five weeks. I also reiterated that the focus group participation would be voluntary. Teachers were informed that participation in the study was completely voluntary with no compensation offered and that they could withdrawal at any time.

As I intended to present an accurate and credible representation of data uncovered during this process, I needed to be aware of my own biases. I strongly believe in the importance of including regular, effective opportunities for students to take part in CL and find the time it takes to plan and implement the process worth the while. This was the only bias I was aware of at the start of the study. Yin (2016) indicated that when participants are aware of the researcher's beliefs, they might try to please the researcher with the responses they offer. I was careful to monitor the way I asked questions and reacted to participant responses so as not to influence them or expose my bias. So as not to make them feel rushed or influenced, I made sure they had completed each response before moving on to any additional questions or requests for clarification (Merriam & Tisdell, 2016). I maintained open communication throughout the process and made myself available to the participants through e-mail, in-person, and via telephone as needed if they had any questions or follow-up thoughts they wanted to share.

I assured the participating teachers that the results of the study would not be shared with supervisors or other staff members in any way that would identify them or

break their confidentiality. I removed any identifying information such as specifics about lessons, content, or resources from the documentation that I reported. To prevent teachers from becoming uncomfortable or suffering resentment from their peers due to being highlighted in such a study, I kept the identity of those involved confidential by not discussing the study in front of others and meeting with the participants behind closed doors after school hours in my classroom or theirs. Some teachers were dealing with a sense of *imposter syndrome* (Brems, Baldwin, Davis, & Namyniuk, 1994; Chapman, 2017) in that they did not believe they were experts on the topic and that possibly their observations just happened to fall on good days. By reminding them that participation in the study was voluntary, I assured them that if they are not comfortable with the process, they could choose not to participate further at any time. I also assured them that if they had successfully planned, implemented, and assessed CL, I was sure they could contribute valuable information to my study.

Participants' confidentiality was protected throughout the study. I guarded their confidentiality at all times and took additional precautions by using personal e-mail rather than district e-mail after initial contact. I assigned each the data collected from each teacher a letter and number for confidentiality purposes. For example, any data collected from or about Teacher One was labeled "T1." I stored a list identifying the individuals in a locked file cabinet at my home. Throughout the data collection process, I kept a researcher's log as a reflective journal to record my steps and reflect on my thoughts and practices. According to Creswell (2012), a researcher's log is used to record details about the setting of the study, participants' reactions, and researcher reactions during the study.

I saved all electronic data collection materials, communications, and recorded interviews to my personal computer with back-ups made to an external drive. The computer and external drive were both password-protected and the drive, when not in use, was kept in the locked file cabinet in my home. During the study, all raw data in paper form and the Livescribe notebook used for interview notes were kept in the same locked file cabinet when not in use. Five years after the study has been completed, I will shred all paper records. Electronic communications and recorded interviews will be deleted at that time as well.

Data Collection

Researchers use qualitative methods to gain an in-depth understanding of the *why* behind an individual's behavior and to understand the topic better from the participant's viewpoint (Rosenthal, 2016). Due to the difference in nature between quantitative and qualitative studies, authorities use the term *credibility* in place of *validity* (Yilmaz, 2013). To enhance credibility, I will provide transparency with my procedures by documenting them so others can understand my processes (Yin, 2016). Utilizing multiple methods and times of data collection allows the researcher to establish triangulation, which adds to the credibility and accuracy of a study (Creswell, 2012; Merriam & Tisdell, 2016; Yin, 2016). To enhance triangulation when conducting a qualitative study, the researcher may look to collect multiple forms of open-ended data about topics such as practices, observations, behaviors, and perceptions (Merriam & Tisdell, 2016). In this study, I accomplished triangulation through one-on-one, semistructured interviews conducted

over a five-week period and document reviews of participants' lesson plans, resources, and assessments from the sixth and twentieth week of the school year.

Interviews

I began with one-on-one, semistructured, 45-60-minute interviews with each participant (see Appendix B). Interviews took place after school hours in either my classroom or the participant's classroom at his or her discretion. Although the interview should feel like a conversation, I included specific questions and worded them in a way that elicited the participant's understandings and experiences with the topic at hand (Rosenthal, 2016). I conducted the interviews using a researcher-developed interview guide based on a guide used by Dr. Christine Siegel (2005) for her study *Implementing a Research-Based Model of Cooperative Learning*. I contacted Dr. Siegel through an e-mail dated September 9, 2017 and obtained written permission to use her interview guide as a basis for the one I developed. Dr. Siegel conducted a qualitative study employing semistructured interviews and observations. She examined an 8th-grade mathematics teacher's knowledge of and experiences with CL. Her interview guide addressed some of the same issues I sought to investigate and, as it is a tested instrument, it added credibility to my guide.

I conducted the interviews in a way that allowed for focused discussion (Creswell, 2012). The guide included a mix of specific, general, and clarifying question types allowing the interview to be conducted in a conversational manner (see Appendix B). The questions were open-ended and neutral, singular in focus, and worded in a clear manner (Merriam & Tisdell, 2016; Rosenthal, 2016). I collected similar data in each

interview, but the process flowed more like a conversation than a question and answer session.

The interview guide (see Appendix B) was also grounded by Johnson and Johnson's (2009) social interdependence theory and aligned to the research questions guiding this study. The interview questions encouraged the participants to discuss why they were motivated to include CL; how they plan, implement, and assess it in their classroom; and what challenges they encountered along the way (see Appendix B). Using a semistructured interview process as my initial method of data collection provided me the opportunity to develop a rapport with my participants. The one-on-one setting allowed me to establish a personal connection with each individual, while still maintaining a professional relationship (Garbarski, Schaeffer, & Dykema, 2016). It also allowed me to control the direction of the questioning and respond to subtle cues in my participant's answers and their body language. When I noticed such cues, I was able to delve a little deeper or change the wording of a question for clarification while still controlling my responsive behaviors in a way that allowed for clarification without influencing the participant's answers (Garbarski, Schaeffer, & Dykema, 2016). Throughout the interview, as the teachers discussed their motivation to include CL opportunities for their students and explained the strategies they used to plan, implement, and assess it, I also asked if they had encountered any struggles or challenges throughout the process. If they identified any, I asked them to describe ways they found to cope with such challenges. I also asked for their suggestions on ways to make CL easier for others

to implement. Gathering the teachers' insights in this manner allowed me to reach saturation as themes were becoming evident in the data collected.

The 10 individual interviews took place over five weeks. I audio recorded the interviews and transcribed them within four days of each interview. I used an Echo Smart Pen, a Livescribe notebook, and an iPad to help with the recording and note taking during the interviews and the Voice Typing option in Google Docs to aid with transcription. I assigned each participant and the data I collected from them a letter and number for confidentiality purposes. For example, any data collected from or about Teacher One was labeled "T1". A list identifying the individuals was stored in a locked file cabinet at my home along with the Livescribe notebook when I was not using it. I recorded and stored all information on my password-protected personal computer and backed it up regularly to a password-protected external drive secured at my home in that same locked file cabinet. I did not conduct additional formal interviews with the teachers but did follow up with a couple of them when specific clarification was necessary. This clarification was not a formal member check but simply a clarification of meaning or information to assure my understanding of the data collected.

Document Review

At the end of each interview, I asked each teacher for a copy of his or her lesson plans, activities, and resources from school weeks six and 20. Week six is midway through the first semester of the school year, and week 20 is the mid-year mark. I chose those weeks to examine the teachers' planning and implementation of CL throughout the year. If lesson plans from weeks six or 20 did not contain any evidence of CL, I

requested lesson plans for the weeks closest to those two that did contain CL activities. The lack of CL in lesson plans from three teachers in one or both weeks was noted and coded as a possible issue with CL implementation even among those rated highly effective. Teachers were also asked to supply examples of assessments and resources used during the weeks that included CL as part of the document review. Merriam and Tisdell (2016) indicated the value in document review is in its stability.

During the data collection process, I established descriptive categories through coding with the aid of NVivo software, a qualitative data analysis software, to guide the document review. Examination of these archived documents allowed for a systematic evaluation of the documents to compare interview responses to recorded daily practices and examine the teacher's processing without researcher intervention (Frey, 2018). This provided an opportunity to examine each teacher's recorded planning for midway through the first marking period and halfway through the school year.

Once data were transcribed, coded, and themes were developed through nodes from the interview data using NVivo software, I created a checklist with which to review the lesson plans, resources, and assessments (see Appendix C). I coded the resulting data and used it to develop new themes or further clarify existing ones. By redacting all identifying features from the documents as soon as possible and assigning the same letter and number system used on the interview data connected with each teacher, I kept the data organized and increased my participant protection procedures. In addition to keeping all paper data in a locked file cabinet at my home, I saved the checklist and review notes on my password-protected personal computer and backed them up to a

password-protected external drive regularly. I kept the checklist in the locked file cabinet when not in use.

Member Checking

To assure that the interpretations of the data gathered were complete and accurate, I utilized member checking. Member checking is a method employed to improve accuracy and creditability and to avoid overtones of researcher bias on the findings (Birt, Scott, Cavers, Campbell, & Walter, 2016; Thomas, 2016). Curtin and Fossey (2007) defined it as a "way of finding out whether the data analysis is congruent with the participants' experiences" (p. 92). Thomas (2016) reported that although member checks did not improve research findings, they were useful in verifying interpretations and obtaining permission for using quotations. Member checking is considered by some to be a controversial method used in qualitative studies to increase the rigor and trustworthiness of the findings (Given, 2008). However, Merriam and Tisdell (2016) indicated that it was an important way to ensure that participants' true meanings were represented and not overshadowed by the researcher's agenda. Member checking ranges in form from the complete interview transcript to the researcher's interpreted and synthesized data (Birt et al., 2016). Creswell (2009) argued member checking is best done with "polished" (p. 191) interpreted qualitative data (themes) rather than actual transcripts. Not wishing to impose the additional time required to read the entire transcript while still ensuring that my interpretations were correct, I sent each participant a four-page summary of my preliminary findings. By sharing the synthesized data, the participants were able to recognize their voice in the findings. I asked that they review

the summary and correct or confirm, to the best of their ability, that I captured the essence of their contributions or make suggestions that would allow me to better represent their input (Merriam & Tisdell, 2016). I pointed out that the summary was a compilation of interviews and document reviews from 10 teachers so there may be some conflicting data, but they should make sure they believed that I had captured their voice. All but one participant signed off on the preliminary findings as I presented them. One simply added a slight clarification about the challenges. This method not only helped clarify any lingering misunderstandings, but also added to the trustworthiness of the data (Goodell, Stage, & Cooke, 2016). At this point, I felt that my findings were truly representative of my participants' data

Researcher's Log

Throughout the data collection process, I kept a researcher's log as a reflective journal to record my steps and reflect on my thoughts and practices. According to Creswell (2012), a researcher's log is used to record details about the setting of the study, the participants' reactions, and the researcher's thoughts during the study. I created a document in my project study folder on my personal Google Drive. After each interview, I reflected on the setting, participant's reactions during the interview, and my thoughts about the process. In my reflections, I included references to how comfortable the participant appeared to be with the topic, any immediate insights I gained, and notes about any additional clarifications I may have needed. This practice allowed me to track my progress and expose any possible bias in my reporting process (Hatch, 2002). I

checked my researcher's log often during the process and was able to notice issues that helped me clarify my findings.

Data Analysis

I completed the transcription of each piece of data within four days of its capture. I made notes in my researcher's log of impressions and key ideas throughout the process. My data analysis did not begin at the end of the study, but instead it was ongoing and at times simultaneous with data collection (Merriam & Tisdell 2016). Qualitative data analysis is a complex and iterative process. Various experts describe the process as steps or phases that reoccur. Yin (2016) suggests a "five-phased cycle" (p. 177) for analysis including compiling, disassembling, reassembling, interpreting, and concluding all of which occur in a nonlinear fashion. Creswell (2012) suggested six steps for analyzing data and indicated that the sequence is not fixed. Those steps include: (1) preparing data for analysis, (2) examining and coding of the material, (3) developing themes to give a bigger picture of data, (4) creating visuals and narratives to represent and report the findings, (5) reflecting on findings and comparing them to literature, (6) validating the accuracy of the findings. Although the concepts are similar, I chose to follow more closely along the steps delineated by Creswell and utilized a researcher's log to help me with organization and recording ongoing reflections. My journal recordings helped me identify additional clarifications to look for as I moved through the interview process and provided a chronology of my process.

During the one-on-one interviews, I used an Echo Smart Pen, a Livescribe notebook and an iPad to help with note taking and voice recording. The use of Voice

Typing option in Google Docs on my personal Google Drive expedited the transcription of interviews. Throughout this process, I compared the transcription to the audio tapes frequently for accuracy. By transcribing my data rather than using a professional service, I gained greater familiarity with the data (Merriam & Tisdell 2016). Once the interview transcriptions were completed, I created a document review checklist (see Appendix C) with which I reviewed the lesson plans, resources, and assessments provided by the teachers. By combining this additional information with that collected from the interviews, I found support for existing themes and, in some cases, assistance in creating new ones. I used NVivo data analysis software to help organize data as I collected it. Although I used technology to record, transcribe, and classify data into nodes, it was up to me as the researcher to personally analyze and interpret the findings (Merriam & Tisdell 2016). By working with the information directly, I was able to gain direct insights into my data.

Preparing data for analysis and examining and coding the material, steps one and two of Creswell's (2012) six steps were ongoing. Step three, developing themes to give a bigger picture of data, continued with the help of NVivo software. I used nodes to identify and code words, ideas, and concepts to in-turn create themes within the data. At first, there were many nodes that in turn allowed me to identify multiple themes, which I combined to create a manageable number. According to Creswell (2012) between five to seven major themes is a manageable number. Thematic analysis is appropriate when conducting qualitative research because it allows the researcher to interpret data rather than merely report facts (Creswell, 2012). Open coding permitted me to use specific

words or phrases connected to my research questions to create labels and temporary themes within my interviews and document review data. Batdi (2017) used thematic analysis of teachers' perceptions of a high school English curriculum to support data gained through qualitative research. Batdi used themes to show not only that the students in the study had done better in the course, but also why the teachers in the study believed the students had done better. Hennessey and Dionigi (2013) also employed thematic analysis when transcribing audiotaped interviews with teachers to identify opportunities and challenges that affected their implementation of CL.

Having completed step three in Creswell's (2012) process, I moved onto steps four through six. I translated the themes into visuals and narratives that I could share with others. Again, NVivo enabled me to create word clouds, which helped represent the key themes. I then interpreted my findings and summarized my results in detail including dialogue that supported the themes in participants' words including data in a way that protected the confidentiality of the participants but conveyed their feelings and experiences. I conducted member checking to help validate the findings. I included conflicting discoveries and limitations after reflecting on my findings and comparing them to current literature. In the final step, I looked to validate my conclusions and then reported those using rich and detailed descriptions in narrative form.

Data Analysis Results

The local problem that prompted this project study was the gap in practice between AHS administrators' expectations that all teachers should implement CL into their curriculum, instruction, and assessments, and the reality that over the past 3 years,

on average, only 32% of the teachers in AHS had done so in a highly effective manner. The purpose of this qualitative case study was to examine the motivation, strategies, and practices employed by a representative group of teachers at AHS who were rated highly effective on their 2016-2017 annual summative evaluation in the implementation of CL. In this study, CL is examined through the lens of Johnson and Johnson's (2009) social interdependence theory, which includes the following five elements: social interdependence, promotive interaction, individual accountability, social skills, and group processing.

The one-on-one, semistructured interviews and document reviews I conducted provided the data for this study. Data were collected from 10 teachers at AHS who were rated highly effective on their 2016-2017 annual summary evaluation in the McREL Teacher Evaluation System Standard 4F. This standard specifically addresses teachers organizing and supporting students as they work collaboratively cooperative teams (McREL International, 2016). During the 45-60-minute interviews and with the help of a researcher-developed interview guide (see Appendix B), I was able to explore the motivation of these teachers who employ CL and learn about the strategies they use while doing so. They also revealed some of the challenges they encountered in the process. I developed and used a document review checklist (see Appendix C) to examine 2 weeks of lesson plans, resources, and assessments. The checklist helped me establish when the elements of CL were present. After collecting, transcribing, analyzing, and coding data, several themes emerged.

Research Questions

In alignment with the framework for this study based on Johnson and Johnson's (2009) social interdependence theory, I explored the motivation, strategies, and practices of a representative group of AHS's teachers who were rated highly effective on their 2016-2017 annual summative evaluation in the use of CL. I also sought to uncover some of the challenges these teachers encountered as they implemented the practice. To guide this study, I developed three research questions. They were:

RQ1: Why are teachers with highly effective ratings in McREL Standard 4F motivated to include CL as part of their classroom practices?

RQ2: How do teachers with highly effective ratings in McREL Standard 4F plan, implement, and assess CL in their classroom practices?

RQ3: What challenges have teachers with highly effective ratings in McREL Standard 4F encountered while implementing CL?

The researcher designed interview guide (see Appendix B) was created to gather data for RQ's 1, 2, and 3 during the one-on-one interviews. The document review process, which was guided by the researcher-designed checklist (see Appendix C), helped me gather additional data for RQ2. The resulting coding and analysis of data are reported below.

Research Question 1

Why are teachers with highly effective ratings in McREL Standard 4F motivated to include CL as part of their classroom practices?

Through one-on-one, semistructured interviews guided by a researcher-developed discussion guide (see Appendix B), I posed questions 4-7, which were meant to elicit responses to help gain insights into why these teachers included CL at highly effective levels. Some of the questions were designed to encourage participants to share their understanding of CL, their personal feelings about participating in the process, and the benefits they saw for themselves as well as their students during the implementation of CL.

I began the analysis of data by using NVivo software's code selection process to highlight keywords and phrases and identify key terms or concepts in each of the transcribed interviews. Through the lens of the social interdependence framework, I examined the participants' personal experiences and motivation to create an environment in which positive interdependence, individual accountability, promotive interaction, social skills, and group processing was present. Through this process, I created nodes that in turn allowed me to recognize themes. I used NVivo's query option to create word clouds to visualize data and identify the central ideas, further identifying themes. As I completed one transcript analysis, I moved onto the next creating additional nodes or connecting new data to existing ones. Once all 10 interviews were reduced to open codes, I created parent nodes that allowed me to move the child nodes under the research question or questions to which they were connected. Some nodes were repeated under more than one research question. Initially, I identified 25 terms and concepts that could be linked to RQ1. Next, utilizing axial coding, I was able to group those findings into six temporary themes. By recognizing stronger relationships, I saw two themes develop that

highlighted the motivating factors teachers cited to include CL in their classroom practice. Below is the detailed description of the findings with supporting interview excerpts from the participants used to answer RQ1.

Theme 1: Teachers Perceptions of and Personal Experiences with Cooperative Learning

Here the responses were mixed. Most of the teachers reported that they did not personally enjoy working in CL settings unless they were with like-minded, similarly motivated individuals. T3 shared:

> If I'm randomly grouped with people at a professional development who immediately complain or do not want to do the work, it's a nightmare. However, when I'm with intelligent people who want to progress, it's a joy. It truly depends on the group.

Four of the teachers acknowledged that they preferred independent work as it allowed them to control the situation and work at their own pace. T7's response was:

> I am a leader naturally and a little bit controlling. So, as I get older, it gets frustrating when you're put into a group when you can't pick them. Also, I would never rely on anyone but myself if I really need to get something done.

Only two teachers discussed having taken part in successful adult CL activities. T6 shared a positive experience he had at a conference, "It was just like the most joyous euphoric experience as an educator because everyone was about the content and the process. It could not have worked without each of us bringing our shared vision and our experience." Finally, T9 reported that he felt immersed in CL. The training for the

course T9 teaches requires “cooperative learning, joint adventures, and getting different perspectives, so it's kind of almost like 2nd nature.” Eight of the 10 participants recalled unsatisfactory or negative experiences while participating in or conducting CL.

Although all the teachers pointed out that CL and student collaboration are important inclusions in student preparation for their future, their personal feelings during implementation varied. Some found it challenging while others used the term "rewarding." Some of the complaints referred to the amount of noise and commotion that goes on in the room and at times a feeling a sense of uselessness when turning the learning over to the students. T8 stated, “Too much noise for me. I have to step back and take deep breaths and realize that they're doing what I'm asking them to do and that it's not just chatter.” T3 indicated that in the past she felt stressed but had grown to “love the interaction.” However, she does struggle to stay out of the conversation at times. All but one teacher discussed having to regulate their feelings to support student inquiry.

On the other hand, teachers list of personal benefits included the ability to step back and watch the learning happen. T4 enjoyed being able to "eavesdrop" on student conversations thus allowing greater insights into the students and their thinking processes and providing the students with a chance to apply their knowledge and gain real-world experience. T10 stated, “I can learn from the kids. When I can sit back and watch, I hear conversations that I can use to help me know my students better. I like to watch them learn.” Highlights of providing students the opportunity to work cooperatively included teacher benefits like seeing students’ excitement when they get to work in groups and being able to take a breath from time to time. T4 said, “Sometimes, once I get them set

up and going, I can take a bit of a break. I mean, I don't go sit down and surf Facebook, but I can check my e-mail or enter some grades." There was a strong connection between the teachers' own experiences with CL and their comfort with its implementation in their classroom.

Theme 2: Teachers' Goals and Perceptions of Student Benefits.

When asked about their goals in implementing CL and the student benefits they saw, the teachers listed many. Often the teachers' goals aligned with what they saw as student benefits. Goals included "enhanced learning," (T1) "building self-confidence" (T4), "transference of skills to real-world situations" (T6), "highlighting students' talents" (T8), and "helping them learn to work together and learn to listen to other people's opinions" (T9). While these were the teachers' goals when planning and implementing CL, they reported seeing many of their goals achieved plus a few additional student benefits.

Student benefits included the development of self-confidence, student leadership, student voice, and evidence of additional support between peers as students of mixed abilities worked together. Responses included, "The kids that are explaining it get a deeper understanding" (T8), "quiet kids coming forward" (T3), "In my opinion, the greatest benefit for my students is them seeing themselves as leaders" (T2), and "The kids become more courageous and gain confidence" (T4). The responses to this topic were numerous. T4 echoed the voice of many when she stated, "Learning to work as a team and giving some kids who don't normally shine a chance to do so is what I see as the greatest benefit." There seemed to be a consensus that through CL students were

given an arena in which they could apply their knowledge and take risks without fear of consequences.

Research Question 2

How do teachers with highly effective ratings in McREL Standard 4F plan, implement, and assess CL in their classroom practices?

Through one-on-one, semistructured interviews guided by a researcher-developed discussion guide (see Appendix B), I posed questions 8 -14, which were meant to elicit responses to help me gain insights into how these teachers plan, implement, and assess CL. Through the interview process, I was able to engage the participants in conversation about their practices. I also requested lesson plans, resources, and assessments for school weeks six and 20 from each participant. Once the interviews were transcribed and coded, I created a document review checklist (see Appendix C) to aid in the analysis of these materials. Once the document review checklist was developed, I examined the materials the teachers supplied to me. In some cases, there was no evidence of CL in the weeks requested. In those cases, the teachers supplied the materials requested from alternative weeks that did include CL.

I began the analysis of data using NVivo software to highlight and code creating key terms or concepts in each of the transcribed interviews creating new nodes or adding to existing ones. Through the lens of the social interdependence framework, I examined the practices participants used to create an environment in which positive interdependence, individual accountability, promotive interaction, social skills, and group processing are present. I coded data collected from each interview by highlighting

keywords and phrases. This process created nodes allowing me to recognize themes. I used NVivo's query option to create word clouds to visualize data and identify the central ideas, which lead to the themes. As I completed one transcript analysis, I moved onto the next, adding additional nodes or connecting new data to existing ones.

Once all 10 interviews were reduced to open codes, I created parent nodes that allowed me to move the child nodes under the research question or questions to which they connected. Some nodes were repeated under more than one research question. Initially, 10 terms and concepts were identified that linked to Research Question 2. I then analyzed the lesson plan data using the researcher-developed checklist (see Appendix C) and added an additional eight terms and concepts. Next, utilizing axial coding, I was able to group those findings into seven temporary themes. Recognizing stronger relationships, I identified three themes that highlighted the methods these teachers used to plan, implement, and assess CL. Below is the detailed description of the findings with supporting interview excerpts from the participants.

Theme 1: Teacher Knowledge and Understanding of CL

During the interviews, teacher definitions for CL included responses such as "group work and teamwork specifically" (T7), "working in unison both academically and socially where everyone has a significant part, i.e.: responsibility to the TEAM, in building the whole picture (T5), "Using the strengths of each student to enhance the learning of the group" (T4), "working in groups and sharing ideas," and "learning and achieving academic goals as a team" (T10). Everyone, in some way, referred to the idea that each member of the team had a responsibility to contribute to the final product in a

way that would make it better than any individual would have produced alone even when the product was simply gaining a better understanding of the material under examination. Two of the teachers specifically said that a resulting real-world product was an essential outcome when employing CL. Only one teacher defined CL using the specific five key terms put forth in the Johnson and Johnson (2009) literature on social interdependence. Others defined CL using descriptions like those that literature uses for collaboration.

Theme 2: Evidence of the Five Key Elements of Cooperative Learning

Interviews

Of the five elements that literature calls for in CL: promotive interaction, individual accountability, social skills, social interdependence, and group processing (Johnson, Johnson, & Smith, 1991; Sencibaugh & Sencibaugh, 2016; Slavin, 2014a), only two teachers described using all five on a regular basis as part of the CL process. Social interdependence, promotive interaction, and social skills were referenced, if not specifically by name, at least in the description in almost all conversations. When asked, T10 described CL as, "Students working together in a way that requires them to need each other to complete the activity or project. Each one having a part that they need to bring to the table." In our conversation, T3 explained that it was, "when kids are sharing ideas, asking and answering each other's questions, and inferring together to help each other succeed." All participants referenced students working together and sharing ideas and learning.

Group processing was least represented as part of the CL experience. Johnson and Johnson (2009) reported that students working in cooperation who were instructed in

group processing attained higher scores on assessments than students working cooperatively but omitting the group processing element. During our discussion, T7 indicated that it was a regular part of her practice. She said:

> They regularly reflect and say if they have worked hard enough or could have worked harder. They discuss what they could have done better to achieve a better outcome. Sometimes they even give themselves pats on the back for a job well done.

Whereas T6 responded, "It really winds up to be once the assessment is done and we're finished here we have a tendency to move on." When asked if she includes group processing, at first T3 said she did. When I went on to describe the components of true group processing she then answered:

> Probably not as much as I should because we're so limited with 41 minutes. If we had block scheduling, which I do not want, but if we had block scheduling, I would be more apt to have that time.

Several of the others indicated that they did have students reflect, but in most cases, upon further discussion, the reflections were independent self-reflections rather than group processing.

Individual accountability was the element that had the most variation in responses. For students to acquire a sense of responsibility to the group, a strong system of both individual and group accountability should be in place, (Buchs et al., 2017; Tran, 2013). Most teachers reported including some method of individual assessment after the activity was completed but rarely building it into the actual CL experience. T1 described

individual accountability in his program this way, “They do the activity together, but write up their reports individually. They then bring those reports back together to create the presentation.” Individual accountability is often established by identifying roles and the responsibilities that go along with them (Johnson & Johnson, 2009). Only T9 talked about individual student roles and responsibilities as required parts of his CL design. He explained how it works in his program:

> The squad leader assigns each person in the group a role. Group leaders rotate through the units, so everybody gets a feel for that role. Then it’s the responsibility of the taskmaster in the group to hold others accountable. Again, roles rotate, so students learn not only the information they uncover in the process of learning the content but also the responsibilities of the role.

Others, like T10, encourage students to work together to decide roles. She provides suggested descriptions of the roles and responsibilities. She explained that her students “identify the roles each will own for the project using a shared Document or Google Sheet. They then record their progress on the Document as they move through the project.” Teacher 10 went on to say,” That Document or Sheet makes it clear who did what and what still needs to be done. It also helps me with grading.” The Document is also shared with T10, which allows her to monitor progress and individual contributions.

Lesson Plans and Resources

Although all 10 teachers expressed seeing value in CL, when lesson plans were examined, a varying degree of CL was in evidence. In three cases, the weeks requested

(school weeks six & 20) had no CL included. Those teachers provided lesson plans for alternative weeks. In some cases, it appeared that administrators might have rated simple collaboration as CL. In most cases, study participants agreed with this observation. Both CL and collaboration provide instructional environments that are student-centered and foster active learning processes (Davidson & Major, 2014; Pinho-Lopes & Macedo, 2016); however, the teacher more strongly controls CL. CL requires the teacher to serve as a guide rather than a facilitator (Molla, 2015). True CL was not visible in most the lesson plans reviewed.

All five elements of CL were evident in lesson plans, resources, and assessments for both weeks requested from T1 and T5. T10 had all five elements of CL described and supported in week 20 but not in week six. In an informal conversation to clarify the issue, T10 said:

> It was not in my plans for week six because the foundation had not been laid yet at that point. I was doing little things to get them ready and talking about the process. I usually start cooperative learning in my third unit, about week 10 or so and spend the first couple days helping them understand the big picture. Unit 3 provides the training ground.

In brief follow-up discussions with T1 and T5, they confirmed that they also spent 2-3 days early in the first semester going over or, as T1 reported, "training" the students on the CL processes. They felt that was critical to student success and contributed to the lack of classroom management issues they encountered. T5 reported:

> It is an ongoing process, but I feel it is worth it because this is how they will function in the real world, well, except without the teacher telling them what to do. For now, they need to practice the skills and understand their roles and responsibilities.

Her lesson plans for both weeks described ongoing cooperative group projects, which resulted in presentations. Resources for both weeks included suggested roles and responsibilities for the project and clear process instructions. T5's resources for week six included a handout that reminded students of expected social norms while week 20's included a guide for groups to set their own norms. Included in both weeks' resources was an explanation of the grading process with rubrics for self-evaluation and peer-evaluations and a form for requesting removal from the group. Removal from the group would require a conference with the group and with the teacher. That conference is meant to utilize group processing to identify the problem. This teacher demonstrated the strongest evidence of CL in her lesson plans and resources and the most positive response to her own experiences with CL.

T7's lesson plans and resources included strong evidence of the inclusion of promotive interaction, social skills, and group processing. "Mixed ability grouping" was specifically designated in the lesson plans and student activities were described as "working together to enhance the learning of all group members." Closure for day three of the lesson plans included a description of students discussing and reflecting on "their personal contributions to the group, the group's processes in general, and the next steps required." Resources for this lesson plan included directions for the activity and a rubric

where reflections were to be completed independently before the group discussion. T7 also reported spending time training the students in what was required to work as a group to collaborate successfully.

T1 teaches in a project-based course and his lesson plans and resources clearly delineated the process and procedures for CL. During the interview, he described what he called, "controlled release." He explained that he starts each unit as the authority and then turns the process over to the students. Students begin with a research process that has each define their area of responsibility and establish a timetable. T1 works with groups of three whenever possible believing that larger groups lean towards more off-task behavior and smaller groups may be disrupted by absences. In the beginning of the year, he supplies them with forms and calendars to help move them through this process and to help with individual accountability. In just about all CL units in T1's course, an individual assessment is included and weighted more heavily than group activities.

T2, although rated as highly effective in CL on her evaluation, in both her interview and in her lesson plans and resources did not truly demonstrate strong evidence of the inclusion of CL. Lesson plans for the weeks I requested did not include CL. Additional lesson plans were submitted for weeks four and 18. In both cases, the lesson plans referred to students examining materials, literature, or songs, and discussing the main ideas. After having small group and then whole class discussion of the material examined, students completed independent assignments. There were no additional resources supplied. Evidence of CL in the remaining data collected from other teachers

varied greatly. However, all teachers included some type of student group work that required students to conduct conversations and limited teacher-centered activities.

Theme 3: Overall Planning, Implementation, and Assessment of Cooperative Learning

Time was the major issue here. There is never enough time. In most cases, teachers discussed the additional time needed to plan for CL and gather the resources. This was especially true when teachers were looking to bring real-world experiences into the process and create a sense of social interdependence. During the interview, T8 explained:

> It takes a lot of time… what I try to do is simulate in my head how it's going to work. I look at my notes. I look on Google. Then I also look at Teachers Pay Teachers type things just like to see if I can find a better way to do something. There's a lot of planning involved…It's a lot of time gathering and creating materials and resources.

T1, T3, T7, T8, and T10 all reported that extra time was necessary not only to plan the activities and determine the grouping but also in the thought process for when and why CL should be included. However, T2 did not feel it required much additional time because as she said:

> Not much time. I think it is an automatic thing. When you asked for resources I thought I don't really have resources, I just tell them what I expect out of them and that varies. I don't plan to collaborate, but instead, I build collaboration into my planning.

As a side note here, T2 is the teacher that reported the most difficulty with student engagement and apathy. She reported, “It's not something I use frequently in my room. I really have to figure out how to develop it to overcome those hurdles, and that's hard when you consider the population that doesn’t want to do the work.” In general, T2 shared that she felt the students in her class were not prepared to take on the responsibilities of CL.

Implementation was also considered time-consuming by most as the need to "train" the students in the process took added time at the beginning of the year. T3 reported that training for CL early in the year easily added at least a day to the unit. She explained:

> When I start in September, and I begin to do lessons that are cooperative, I'll explain the roles. I'll explain why I'm doing it. I'll explain what I expect to see and get from these things. I'll talk about how grades work because you know honors and AP kids... Usually by the first week in October, they're good. They know my expectations. They know my routines; they’re ready to go. They understand the processes.

The teachers also discussed the need to "retrain" throughout the year. Several teachers referred to the conflict between the time needed to prepare students for state testing and the additional time required for students to take part in CL activities. T10 explained, "Content can be covered more quickly when I tell them the information rather than allowing them to work together to uncover it through CL. I know that’s not what’s

best, but it's sometimes what has to happen." T2, T3, and T8 all discussed the pressure of fitting in CL with standardized tests looming.

Each teacher referenced the noise and movement that goes along with CL. T1, T3, T6, and T8 used versions of the term *chaos* when describing what their rooms look like and sound like during the CL process. "Noisy" (T4), "buzzing" (T5), and "movement" (T2) were also terms used to describe the environment. In general, teachers agreed that CL was most appropriate when they wanted students to solve problems and work at higher levels of Bloom's and least appropriate for simple recall or activities that could or should be done independently. T3 shared that she believed it is "most appropriate for any kind of higher level of Bloom's risk-taking where they can help each other make an inference, draw a conclusion, or use application." T4 reported that she uses CL for "Projects that take more than one class period and can be collaborated on electronically." T10 uses it for, "tasks that require consideration of other's ideas or opinions and values others input." It is clear from the responses that the teachers in this study were looking to create collaborative environments in which students have already acquired the foundational knowledge to problem solve and think critically. However, Davidson and Major (2014) indicated that structured CL was necessary first to prepare students for collaborative interactions.

Finally, when it came to assessments, most teachers placed more weight on an individual assessment given after the CL was completed. Some reported not including a grade for the actual CL activity. When T1 was asked about assessments, he reported, "Formatives are the discussions. Summatives are sometimes performance-based, almost

always individual except for presentations." T3 said, "Don't like group assessments… I go from group to smaller group to individual for the actual assessment because kids get too worked up over grades." In general, the teachers reported having difficulty assigning grades for CL activities. They felt it was hard to measure each person's contribution and that it encouraged the student most concerned about his or her grade to commandeer the project.

Research Question 3

What challenges have teachers with highly effective ratings in McREL Standard 4F encountered while implementing CL?

Through one-on-one, semistructured interviews guided by a researcher-developed discussion guide (see Appendix B), I posed questions 15-19, which were meant to elicit responses to help gain insights into the challenges these teachers faced when including CL at highly effective levels. Some of the questions were designed to encourage participants to share the challenges they encountered, ways they dealt with some of those challenges, and any thoughts or suggestions they had for making CL easier to implement and more beneficial to themselves and their students.

I began the analysis of data by using NVivo software's code selection process to highlight keywords and phrases and identify key terms or concepts in each of the transcribed interviews. Through the lens of the social interdependence framework, I examined the challenges participants encountered when creating an environment in which positive interdependence, individual accountability, promotive interaction, social skills, and group processing are present. I coded data collected from each interview. This

process creates nodes that in turn allowed me to recognize themes. I used NVivo's query option to create word clouds to visualize data and identify the central ideas further identifying themes. As I completed one transcript analysis, I moved onto the next creating additional nodes or connecting new data to existing ones. Once all 10 interviews were reduced to open codes, I created parent nodes that allowed me to move the child nodes under the research question or questions to which they connected. Some nodes were repeated under more than one research question. I initially identified 17 terms and concepts linked to Research Question 3. Next, utilizing axial coding, I was able to group those findings into nine temporary themes. Recognizing stronger relationships, I identified three themes that highlighted the challenges of CL and some possible solutions or workarounds for those challenges. Below is the detailed description of the findings with supporting interview excerpts from the participants.

Theme 1: Planning, Implementing, and Assessing

Many of the issues with planning, implementing, and assessing were addressed in the earlier section. Time is the issue with planning and implementing. Teachers who were the only ones teaching their course sometimes struggled to flesh out a project idea or find the needed resources. "It takes a lot of planning and prepping to pull it off, especially if I am the only one doing it. I have no one to bounce ideas off. A second set of eyes would be helpful during planning," was T10's experience. When planning for a long-term CL, additional time was required to plan groups and determine roles. T3 discussed trying to balance the groups:

> I can have some very dominant personalities and one submissive. That makes it unbalanced and makes it a lot tougher. I find that to kind of level that out, once I get to know the kids by October-November, I use a randomizer on the Smartboard. I keep hitting it until I see a good mix of groups. I can even adjust that. I'll put all the dominant kids in one group together, and I'll put all the slacker submissive kids together.

Others reported similar planning and thought going into the grouping for CL. "Balancing out the groups, managing the personalities, and holding everyone accountable takes planning. Putting all the strong kids together leaves the lazy ones the excuse to not do anything" were T10's thoughts.

Implementation of CL often took additional time to retrain students to the process. Several participants discussed the need to redirect the inevitable off-task behavior and discussions that occur. "It is a lot of Babysitting. I have to be over the shoulder. I am constantly checking" (T2), "The hardest part is keeping conversation focused… It's really a training process." (T8). In addition, to that point, many discussed that additional time was needed for the discovery and discussions that were a part of CL. "I can't get through the material fast. I don't care what subject you're teaching that's going to be the drawback," reported T8. Some teachers mentioned the need to adjust on the fly as CL the time required for CL depended on the students in the room and, in some cases, the time of day those students are in the room. "It does not always go as planned. It often takes more or less time than planned" (T10), "When I have them right after [lunch], I find that they're actually louder because they're still all hyped up from [lunch]. When I have them

after later in the afternoon, they're quiet because they're sugar crashing" (T3). In a few cases, having certain types of classes at a particular time of day influenced whether the teacher included CL at all.

The discussion about assessment brought three factors to light. The first being that it was hard to know if everyone was learning, another was the difficulty in assigning grades and the third was individual accountability. "A kid can hide, and it might be too late before you realize someone did not get it" was T1's concern. T3 shared:

> What I find with group assessments is that my kids are so torqued up about their grade and their rank that they will fight tooth and nail and say well I didn't agree with this… so I go from group to smaller group to individual for the actual assessment.

T2 found that "there is always part of the population that doesn't do what they are supposed to, and some will say I don't want this to affect my grade." Assessment of CL did seem to present a problem for most of the teachers.

Theme 2: Classroom Management Issues

Classroom management discussions pointed to several issues. The topic of grouping brought concerns that included balancing groups, managing personalities, and holding everyone accountable. T7 explained her concerns this way:

> I like the idea of the intentional grouping… Sometimes I feel like it's challenging to really grasp whether or not they're fully understanding a concept. I think it's difficult as a teacher because I could just assume that the whole group

> understands it, but it might just be one kid in the group has done the work for everybody.

In contrast, T5 stressed that “Not calculating the grouping can actually highlight some great unexpected outcomes.” The results were mixed as to whether teachers created groups, allowed students to choose their groups, or simple seating logistics determined the group composition.

Chaos and noise were seen as both a positive and a negative. T6 explained it this way:

> The worst and best part is the conversations. Too much is disruptive, but sometimes the conversation becomes a teachable moment. Sometimes I have to pull them back, way back. When cooperative learning hasn’t happened in any other classes all day, they get to my class and think it is recess.

The necessity for close supervision was an area of concern for many. Responses here included, "non-stop babysitting" (T2), “the need to be in three places at once" (T10) and "continually refocusing conversations to the here and now" (T8). Additional concerns included irresponsibility, immaturity, chronic absences, and antisocial behavior. A few of teachers discussed struggling with the classroom management issue, although not as much about student behavior as about their own behavior. T9’s comments included, "Sometimes I am not sure how much time to give them or how much to let them struggle to uncover what I need them to learn." Molla’s, (2015) study supported T9’s thoughts as Molla explained that to be successful in a CL classroom, a teacher must see their role as flexible; “rotating between supporter, facilitator, observer, change agent

and adviser" (p. 2484). A couple of others talked about managing personalities when it came to leaders versus student who take over. Additionally, the idea of motivating the unmotivated came through in more than one interview.

The participants offered measures to combat some of the issues they encountered. T1 described a method he used to encourage the social skills students needed to conduct successful CL. "It comes down to managing kids and time," he said. He went on to explain:

> They got 5 minutes just to get some ideas on paper. I said 'okay now we're going to just do this by the clock, 30 seconds. Share your ideas with your team. You can't interrupt or ask questions, just let the person ramble for 30 seconds. Everybody goes for 30 seconds and then we go around again.' Then they have 30 seconds to ask questions, an open dialogue on these ideas, then these ideas. Then they come to a conscientious.

This method helped students learn to listen and feel that they were heard. T5's suggestion was, "When groups don't work well together, mediate, but try to let them work it out. This improves both social skills and problem-solving skills." T6 offered ideas about motivating the unmotivated:

> I try to get the other kids to rally around that unmotivated student; together we try to make sure they can feel successful and that their opinion or area of responsibility in the project matters. I guess that would be the social interdependence you were talking about. [Laugh]

Technology was another method for keeping students on task. T8 discussed her use of Class Dojo and chips. Both were used to acknowledge and reward on-task behavior. "It is a training process," she said. "I point out positive activity by thanking the kid who is doing something right." T10 discussed the option to have extensions or different types of activities so students who wanted to dig deeper could do so without having to do additional work. She suggested, "They can just do different work." Multiple teachers suggested including rubrics and descriptions of roles and responsibilities for students to assume within a group. Teachers also discussed the use of timetables or calendars with due by dates and shared Google Documents.

Theme 3: Support and Training: What Currently Exists and What Is Needed

Most teachers felt that although there was district support, and in some cases departmental support for CL, they had very little direct training in this area. "Self-guided," (T6) and "I would love to take part in formal training, I don't think I have ever had any" (T4), and "I've done some online things, but nothing formal" (T2) represents the comments from the group. None of the teachers felt that they had a reasonable amount of training in their pre-service program. To counteract that, most had done their own research and currently sought support from individuals, groups, or organizations outside the district on their own time.

To make CL easier, the teachers agreed that additional training would be helpful. Also, if guidelines were established during that training and common practices embedded at earlier grade levels, students would be better prepared and benefit more from CL at the

upper grades. This prior training and practice might help with student behavior, as they would be "use to the process" (T4). Teacher 3 said:

> If more teachers did CL in a similar manner, it would get easier, so then maybe even more would do it. The kids are going to have to learn to do it eventually, so why don't we give them a safe place to practice?

When asked what else would make it easier, teachers suggested, "more content specific training in CL for themselves" (T2, T8, & T10). Other suggestions included "allowing teachers interested in implementing CL to observe teachers rated highly effective in the practice" (T3). Taking that a step further, it might be helpful to allow highly effective teachers to go in and support other teachers during their planning and implementation of CL. Finally, the idea of creating a learning team for CL would help create support for teachers at all levels of comfort with CL.

When asked why so many teachers appeared resistant to implementing CL responses included, "They think it is hard" (T6), "they may not know how or have the time (T9), and T1 said, "People teach the way they were taught. Many have a passion for their content. It takes additional training and the time that goes into training. Seeking ways to do it may make people uncomfortable." All believed that lack of training and individual personalities probably contributed to the resistance.

Evidence of Quality

My data collection reflected an attempt to keep personal biases out of the findings. However, as qualitative data requires the researcher to interpret data, additional methods were necessary to produce a credible study (Merriam & Tisdell, 2016). Due to

the difference in nature between quantitative and qualitative studies, authorities use the term *credibility* in place of *validity* (Yilmaz, 2013). To assure that my study was credible, I continually checked for accuracy in my transcriptions and interpretations of data. Member checking the research by inviting participants to read, correct or verify the synthesized data added to the credibility of the study (Yilmaz, 2013). I supplied each participant with a four-page summary and asked them to read it to verify that their thoughts and ideas were accurately reflected. This method was also intended to help identify any biases or misunderstandings included in my reporting (Merriam & Tisdell, 2016). Nine of the 10 participants responded informing me that they agreed with the findings. One participant responded with an additional point about the challenge of assessing students. His response was added to the data.

Transferability is also desirable for a research study and is assured when a rich description of the setting, sample, and content of the study is reported allowing other researchers to apply the findings to a similar setting (Yilmaz, 2013). I achieved this by incorporating a detailed description of the people, places, and topics involved in my study. I also recorded the details and steps taken in a researcher's journal for clarification. I kept the journal in a locked file cabinet at my house.

Additionally, I triangulated my data collection by collecting various sources from multiple individuals at different times throughout the study representing different times throughout the school year (Creswell, 2012). Utilizing semistructured interviews and document reviews provided access to multiple forms of data over a period of

approximately six months. Including numerous teachers who represent grades 9-12 and various content areas also added to the credibility of this study's findings.

Discrepant Cases

The final step in assuring the integrity of my study was to look for data that challenged or contradicted my findings (Merriam & Tisdell, 2016; Yilmaz, 2013). In my initial Literature Review, I located and acknowledged one such study about the benefits of CL. The Nokes-Malach et al. (2015) study questioned some of the benefits of CL in specific situations but did not completely undermine the practice.

Two factors were uncovered during the data analysis process. During the interviews with T2, T4, and T8, they shared that they were not comfortable with CL projects. Their discomfort was reflected in their lesson plans as well. They were more likely to have students work together for brief periods to review or discuss ideas than take part in true CL. T2, T4, and T8 rarely, if ever, went through the process of creating roles or assigning tasks. In most cases, their description of CL activities aligned more closely with definitions of collaboration or group work rather than CL. These three teachers also had the most negative responses to personal experiences with CL and reported the most classroom management issues while implementing CL. The consensus among the participants was that some administrators might not have a clear understanding of CL and, therefore, gave credit for it when collaboration or group work was what was observed. If this is true, the district statistics reporting a 3-year average of 32% of the teachers as highly effective may be inflated.

Actively seeking such cases helps establish the trustworthiness of qualitative research (Booth et al., 2013). This process proved beneficial to the findings as it helped me reach a point of saturation in my data collection. Having identified these incongruences in data required me to modify my findings (Booth et al., 2013). These issues are addressed in the second literature review and influenced the final project.

Outcomes

The local problem that prompted this project study was the gap in practice between administrators' expectations that all teachers should implement CL into their curriculum, instruction, and assessments, and the reality that over the past 3 years, on average, only 32% of the teachers in AHS have done so in a highly effective manner. The purpose of this qualitative case study was to utilize Johnson and Johnson's (2009) social interdependence framework to examine the motivation, strategies, and practices employed by a representative group of teachers at AHS who were rated highly effective on their 2016-2017 annual summative evaluation in the implementation of CL. Through interviews and lesson plan document reviews gathered from 10 AHS teachers rated highly effective in CL representing all four high school grades and various content areas, data were collected, analyzed, and compared to identify common themes.

In response to why the teachers are motivated to include CL in their classrooms, the interview data revealed that those who had positive experiences participating in CL as adults were more likely to embrace CL at high levels and more consistently. All study participants saw benefits for students and some for themselves in CL activities. Many of

the teachers identified personal goals when implementing CL that aligned with elements within the social interdependence framework.

The study revealed that teachers' use of CL was influenced by their understanding of the elements that go into it. Data analyzed and linked to how teachers plan, implement, and assess CL in their classrooms demonstrated that although the teachers could describe the group work entity of CL, most used descriptions that more accurately described collaboration leaving out the importance of the teacher's guidance in the process. Only one teacher was overtly aware of the five elements of Johnson and Johnson's (2009) social interdependence theory. Upon further investigation, only a couple included all five regularly in their practice. Teachers who demonstrated a strong understanding of the five elements of Johnson and Johnson's (2009) social interdependence theory and integrated them into their pedagogical practices when implementing CL reported a more favorable opinion of CL and less student behavior and motivational issues.

In addition, even though research shows that group processing is one of the elements that offered the most significant opportunity for student interaction and led to improved learning (Fernandez-Rio, Sanz, Fernandez-Cando, & Santos 2017) few reported using it. Participants cited time constraints when explaining their limited use of group processing. Almost all participants pointed to time being the primary issue both in the planning and implementation stages of CL. Also, locating or creating resources, planning group compositions, retraining students were areas identified as commanding extra time.

When asked about the challenges they encountered while implementing CL, common responses among participants included time, grouping, and the ability to assess students fairly. Assessing individual accountability was also a significant area of concern. Off-task student behavior and student motivation were additional concerns expressed by many participants. When asked why others may not utilize CL practices in their classrooms, teachers' responses indicated that others might not be comfortable with the practice or felt it is not worth the time and effort. Miquel and Duran (2017) acknowledged the fact that the implementation of CL is often met with resistance due to the difficulties encountered. Most participants felt that if more teachers employed CL, it would be less challenging, and others may try it.

Teacher suggestions for moving forward and encouraging others included additional training with content specific examples and resources, peer observations, and ongoing professional collaboration. Additional professional development and training in planning, implementing, and assessing, especially in content specific areas would enhance even experienced teachers' practices. Peer support, establishing a district guideline for creating CL units, and additional planning and collaborative time would also help others as they became comfortable including CL in their lessons.

Conclusions

Through a case study, I examined the motivation and strategies employed by 10 high school teachers who were rated highly effective in CL on their 2016-2017 annual summative evaluation. Qualitative data in the form of one-on-one interviews and lesson plan document reviews were gathered, analyzed, and reported to answer the following

three research questions: Why are teachers with highly effective ratings in McREL Standard 4F motivated to include CL as part of their classroom practices? RQ2: How do teachers with highly effective ratings in McREL Standard 4F plan, implement, and assess CL in their classroom practices? RQ3: What challenges have teachers with highly effective ratings in McREL Standard 4F encountered while implementing CL?

Data from this qualitative study suggested the need for additional training, ongoing encouragement, and support for those implementing CL at any level of effectiveness. In addition, teachers' concerns regarding the time involved in planning and implementing CL became clear along with the difficulties of designing group composition and assessing students fairly during the process. In the absence of a district-wide definition of CL, inconsistency in evaluation may also hamper both teachers' and administrators' understanding of the process.

Section 3 contains the literature review and introduces the project designed to address the issues uncovered in this study. It also includes the resources and supports available, addresses solutions to potential barriers, and a proposal for implementation. A project evaluation plan and project implications are also contained within Section 3. This project promotes positive social change by encouraging and supporting teachers as they incorporate CL practices more frequently. By doing so, educators will prepare their students to overcome the challenges of collaboration and teamwork while reaping academic, social, and emotional rewards (Chan & Bauer, 2015; Johnson & Johnson, 2009; Gillies, 2014; Laguador, 2014). Ultimately, teachers will be better equipped to

train students to successfully collaborate and network both locally and globally as they enter the workforce.

Section 3: The Project

Introduction

The purpose of this project study was to examine the motivation, strategies, and practices employed by a representative group of teachers at AHS who were rated highly effective on their 2016-2017 annual summative evaluation in the implementation of CL. This qualitative case study included interviews with 10 such AHS teachers and a review of 2 weeks of lesson plans and resources from each teacher. In all but two cases, the participating teachers indicated that they felt ill prepared to conduct CL. The teachers in the study struggled with group composition, student motivation, off-task behavior, assessment, and accountability issues. Although all participants saw some student benefits when employing CL, those who reported negative personal experiences with CL as adults were less likely to prioritize its implementation. The interviews and document reviews also revealed that, at times, teachers felt they might have been given credit for highly effective CL during observations, when what administrators saw was simple group work or collaboration, not highly structured CL.

The need for teacher training in the use of CL is strongly supported in the literature, with many researchers citing the challenges involved in its implementation (Gutierez, 2015; Johnson & Johnson, 2014; Molla, 2015; Ronfeldt, Farmer, McQueen, & Grissom 2015) All the participants in this study indicated that they had little formal training in CL. Although three participants indicated that they had some peer support, all the participants recounted seeking their own resources and training outside the district. The participants concurred that professional development (PD) focused on CL would

increase the frequency and quality of CL in the district. The perspective of participants was that, by creating a greater understanding and supplying ongoing collegial support, district teachers may be more likely to implement the strategy and, by doing so, provide students with the opportunity to benefit from the practice.

Findings from this study indicate the need for a district-wide, yearlong initiative focused on improving the frequency and quality of CL throughout the district. To address this need, I developed an initial 3-day intensive PD series based on the findings from this doctoral project. This PD series will be offered before the start of the 2019-2020 school year and on scheduled in-service days throughout the school year to train additional staff members. The district initiative suggestion includes an expansion of existing grade level or content area learning teams to include administrators for follow-up and support, the use of NJDOE-trained district teacher leaders to serve as coaches and mentors, and the inclusion of action research focused on improved CL in staff members' individual PD plans. This sustained focus should enhance the practices of teachers at all levels of CL implementation and clarify expectations for both administration and staff. The additional support should also allow teachers the opportunity to collaborate and extend their own CL experiences and create a shared vision throughout the district.

This section includes a description of the project and project goals along with the rationale for the content and genre of the project. The section also includes a review of literature related to the project; a project description; an explanation of the resources, supports and potential barriers; and the plan for implementation. The final subsection

contains the project evaluation plan and discussion of the project's implications for social change.

The project resulting from my study is a 3-day PD series for district administrators and teachers desiring to improve their understanding and implementation of CL (see Appendix A). By the end of the 3 days, additional grade level or multi-grade level, cross-content learning teams will be established to provide ongoing emotional and practical support as well as collaborative opportunities for teachers at all levels of implementation. Follow up monthly learning team meetings will be open to additional staff members and administrators as the district initiative expands. These meetings will allow attendees to share ideas while allaying fears and receive encouragement to take risks during the implementation of new pedagogical strategies (Girvan, Conneely, & Tangney, 2016). In addition, building administrators and department supervisors will be expected to attend the PD series to cooperatively create a district-wide understanding of the CL process and identify ways to create a supportive environment for those working to improve their practice. Krecic and Grmek (2008) reported that conditions for successful teacher PD included the administration's support and a connectedness between personal goals and district goals.

Working together in this setting will provide a collaborative environment for administration and staff. As Ronfeldt, Farmer, McQueen, and Grissom (2015) reported, "teachers improve at greater rates when they work in schools with better collaboration quality" (p. 492). Teacher success is more likely when all stakeholders share similar values and work collaboratively to enhance student learning (Van Houten, 2015).

Therefore, the program will be open to all district teachers in Grades 7-12 to create greater vertical articulation and provide the opportunity for all in attendance to work cooperatively to create a shared vision and enhance the use of CL throughout the district.

The purpose of this 3-day series is to enhance educators' knowledge of CL; create a supportive, collaborative environment; and develop a district-wide understanding of the five elements in Johnson and Johnson's (2009) social interdependence theory, which supports successful CL implementation. The PD series will include training in CL using CL strategies. Because the teachers in the study indicated that negative, past experiences with CL influenced their use of the practice, it is important to provide teachers the opportunity to break through those barriers (Baloche & Brody, 2017; Saborit, Fernández-Río, Estrada, Méndez-Giménez, & Alonso, 2016). CL activities throughout the 3-days should afford the participants an environment in which they can learn proper implementation procedures while enhancing their personal experience with the practices.

The sessions will include time for teacher collaboration, practice in developing and locating resources, and time to restructure current units of instruction to include CL. Including time for the application to actual classroom materials allows teachers to apply what they learn immediately (Unver's, 2014). Unver's (2014) case study demonstrated that providing the opportunity to connect theory to practice is critical, as this will help teachers see immediate value in the PD.

Rationale

The problem addressed in this study was the fact that over the past 3 years only 32% of the high school teachers at AHS were rated highly effective in the McREL

teacher evaluation element that focused on CL. Underrepresentation of CL in classrooms around the world is often cited in the literature (Buchs et al., 2017; Kocabas & Erbil, 2017; Molla, 2015). My one-on-one interviews and documents reviews of lesson plans from 10 AHS teachers rated highly effective on their 2016-2017 summative annual evaluation in the use of CL revealed that even some of these teachers struggled with its implementation.

Most participants in this study revealed that they had received little training in CL. Furthermore, they struggled to define the practice in a way that included the five elements of Johnson and Johnson's (2009) social interdependence theory. Literature refers to Johnson and Johnson's five elements: positive interdependence, individual accountability, promotive interaction, social skills, and group processing, as the integral to successful CL implementation (Ferguson-Patrick, 2018; Saborit et al. 2016; Opdecam & Everaert, 2018). All but one participant defined CL in ways that more closely aligned with definitions of collaboration omitting the structure and guidance elements required for successful CL. Proper planning and implementation of CL to include structure and guidance may alleviate some of the negative classroom outcomes reported by participants.

Three participants shared that they were reluctant to implement CL at times due to their own negative experiences and concerns. Common concerns among the participants were in the areas of group composition, student motivation, off-task behavior, accountability, and grading. The additional time that planning and implementation required was also a significant deterrent to implementation. Current educational

literature reflects these concerns (Baloche & Brody, 2017; Jolliffe & Snaith, 2017; Le, Janssen, & Wubbels, 2018). In addition, three teachers in the study confessed that they felt that their ratings might have been inflated due to the lack of a shared understanding of CL among district administrators.

Uncovering the struggles of the most highly effective CL teachers in AHS district revealed the need for PD to provide training, time, and space for teachers to integrate the practices into current units of study. By drawing attention to the possible misunderstandings of CL among administrators, this study also demonstrated the need to provide the opportunity for district educators and administrators to work cooperatively during PD sessions to define the practice. School districts often offer PD to encourage educators at all career levels to strengthen their practice (Mizell, 2010). Bayar (2014) and Gutierez and Kim (2012) indicated that PD enhanced teacher pedagogical knowledge and improved teacher effectiveness thus supporting the decision to make PD the genre for my project.

Johnson and Johnson's (2009) social interdependence theory guides the selection of content and activities included in the 3-day PD session on CL. CL has been shown to be an essential pedagogical strategy that enhances students' ability to meet the challenges of the 21st century (Dean et al., 2012; Ferguson-Patrick, 2018; Opdecam & Everaert, 2018). However, for students to work cooperatively, they must be taught how to navigate the process (Ferguson-Patrick, 2018; Gillies & Boyle, 2010; Molla, 2015; Opdecam & Everaert, 2018). Therefore, teachers must become adept at preparing students for the practice, which is the ultimate goal of this PD project. The PD series may allow the

teachers to learn and experience CL in a way that could enhance implementation more effectively into their classrooms.

This project will promote positive social change by encouraging and supporting teachers as they incorporate CL practices more frequently. By doing so, educators will prepare their students to overcome the challenges of collaboration and teamwork while reaping academic, social, and emotional rewards (Chan & Bauer, 2015; Johnson & Johnson, 2009; Gillies, 2014; Laguador, 2014). Ultimately, teachers will be better equipped to train students to successfully collaborate and network both locally and globally as they enter the workforce.

Review of the Literature

In Section 1, having researched and identified Johnson and Johnson's (2009) social interdependence theory as the foundational framework for my study, I addressed and clarified the five key elements of CL and the differences between collaborative learning and CL. Additionally, I identified current classroom, college, and career expectations; defined the teacher's role in CL; discussed teacher motivation and student benefits; described challenges to implementation of CL; and reported conflicting evidence in the value of CL. To address teacher needs uncovered during this study and in continuance with my framework, I conducted an additional literature review. I consulted several books and conducted literature searches using online databases supplied by the Walden Library.

The databases accessed for this literature review included Education Source, EBSCO Discovery Service, Education Resources Information Center (ERIC), Google

Scholar, Sage Journals, and Thoreau Multi-Database Search. The search terms I utilized included *adult learning, andragogy, assessing group work, cooperative learning challenges, effective professional development, evaluation of professional development, group work in the classroom, professional development, professional development and cooperative learning, professional development* and *instructional practices, professional learning, teacher efficacy, teacher's role in cooperative learning.* In response to the findings from this study, the literature review addresses the value of PD, the need for PD focused specifically on the successful implementation of CL, and the specific areas of need related to CL implementation issue which these study findings uncovered.

Professional Development

Because teacher effectiveness is seen as the most significant in-school element influencing student success (Darling-Hammond, 2017; Hattie, 2009), and on-going teacher development is the key to creating effective teachers (Darling-Hammond, 2017; Darling-Hammond, Hyler, Gardner, 2017), I chose PD as the genre for my project. The Learning Forward (n.d.) organization recently created a new definition of PD. It is lengthy and includes many specifics, but the opening sentence explains it as, "strategies for providing educators with the knowledge and skills necessary to enable students to succeed in a well-rounded education and to meet the challenging state academic standards" (p. 1). Johnson and Johnson (2017) indicated that teacher PD must focus on both the content taught in the classroom and the methods used to teach the content. Effective teachers teach with intention, are reflective, and are willing to make changes (Miller, 2009). However, for PD to be effective, it must have a clear, specific focus, be

sustained over time, include active learning, and focus on improved student outcomes (Callahan & Sandeghi, 2015; Garet, Porter, Desimone, Birman, & Yoon, 2001). Darling-Hammond, Hyler, and Gardner (2017) added that PD should also support collaboration, use models of effective practice, provide coaching and expert support, and offer feedback and time for reflection. Teachers report benefiting more from PD when their personal experiences and needs are considered and included in the structure and content of the training (Gökmenoğlu, & Clark, 2015). I considered these recommendations when designing the final project.

Although PD is relied on to increase teacher effectiveness, it is often met with negative reviews by teachers and deemed ineffective in supporting change (Darling-Hammond, Hyler, Gardner, 2017; Dole, Bloom, Kowalske, 2015; Gökmenoğlu, & Clark, 2015). Single session PD has been described as superficial and lacking relevance leaving teachers inadequately prepared to implement the new strategies or knowledge into their classrooms (Badri et al., 2016). When teachers receive PD of short duration, there are inadequate resources and materials, or there is little administrative support and community buy-in, the intended changes do not occur (Badri et al., 2016; Hammond, Hyler, Gardner, 2017). The PD for this final project is a 3-day series with a recommendation for follow up support in the form of monthly meetings in learning teams.

Providing well-designed PD that encourages teachers to learn from and with one another provides support and encourages teachers to take the necessary risks to impact their learning and increases the chances of continued implementation (Darling-

Hammond, 2017). Miquel and Duran (2017) posit, "It is widely recognized that collaboration among teachers is directly linked to the improvement of practices in innovative educational situations because of the learning processes it promotes in the participants" (p. 2). Darling, Hammond, Hyler, and Gardener (2017) reported that 21st century student competencies such as critical thinking, complex problem-solving, effective communication, and collaboration require teachers to employ innovative teaching strategies, which are best developed and honed in collaborative settings with ongoing support. Even though CL may not be considered an innovative strategy, it will be new to many district teachers, and the collaborative setting will provide a comfortable environment in which teachers can improve their practice.

Adult Learning: Andragogy

When planning PD, teachers' academic and emotional learning needs and elements of andragogy should be considered. When teachers' needs and concerns are addressed in the planning and implementation of PD, they are more likely to internalize the learning and implement the knowledge or strategies into the courses they teach (Badri et al., 2016). Adult learners tend to reject ideas to which they do not feel committed (Peppers, 2015). Therefore, it is important to provide the teachers with the opportunity to voice their concerns about the implementation of CL and address them during the PD sessions.

Malcolm Knowles popularized the concept of andragogy in 1980 (Corley, 2008). Knowles, Swanson, and Holton (2005) stressed that andragogy differed from pedagogy as it was focused more on the process of teaching rather than the content being taught.

Knowles, Swanson, and Holton described eight elements required to engage the adult learner successfully. The following is a list of the elements and how they will be addressed in this project:

1. preparing the learners – prepare learner with realistic expectations of what the PD series will entail and accomplish;
2. creating the climate – create an environment of trust, collaboration, and support;
3. planning – incorporate shared learning for facilitators and learners during the 3 days;
4. diagnosing needs – obtain input from participants through early identification of their understanding and comfort with CL;
5. setting objectives – adjust activities if needed according to participant input;
6. designing learning plans – gauge participants readiness from early self-assessment survey;
7. implementing learning activities – encourage participants to learn through inquiry in areas of interest and content specialties; and
8. conducting evaluation – collect data during and after each session.

To support adult learning in PD, the instructors must develop a climate of trust, design learning activities with the learner's practical needs in mind, and provide time for participants to reflect and apply their learning.

Additionally, Knowles, Swanson, and Holton (2005) posited six principles that lie at the core of adult learning. In his earliest writings, Knowles included only four core

principles. Those principles were: "self-concept of the learner, prior experience of the learner, readiness to learn, and orientation to learning," (p.4). Later he added, "Learner's need to know and motivation to learn" (p.4). Knowles, Swanson, and Holton' also suggested that instructors of adult learners be aware of the individual differences among learners and the need to accommodate those differences. To be successful and engage the learner, PD should be guided by the participants' awareness of their own strengths and shortcomings, prior experiences with the content of skills at the center of the PD, and willingness and ability to improve their practice. During the PD sessions, instructors should provide the participants with the time and opportunity to learn through inquiry and apply the knowledge immediately. However, for adult learners to truly benefit from PD they must see value in the learning and be motivated to apply it to their classroom practice.

As evidence in my study demonstrated and literature confirmed, teachers' beliefs strongly influence their practice (Holm & Kajander, 2015; Saborit et al., 2016). Self-efficacy, as described by Bray-Clark (2003), is "a task-specific belief that regulates choice, effort, and persistence in the face of obstacles and in concert with emotional state of the individual" (p. 14). An important factor in the successful implementation of CL is a teacher's feeling of self-efficacy (Jolliffe & Snaith, 2017; Ruys, Van Keer, & Alterman, 2011). T2 specifically reported that her lack of comfort with CL was what hindered her from implementing it in her classroom. In her interview, she said, "It's not something I use frequently in my room. I really have to figure out how to develop it to overcome those hurdles and, that's hard." She went on to say that she wished she had more training.

PD has a significant effect on a teacher's self-efficacy (Yoo, 2016). Research revealed that when teachers received specific training in the design and implementation of CL in educational settings they were more likely to see the value of CL, develop a positive attitude towards the practice, and employ it more persistently (Arami, Poulsen, & Chambers, 2004; Dole, Bloom, & Kowalske, 2015; Gisbert, Seuba, & Coll, 2017; Saborit et al., 2016). CL promotes academic achievement and enhances students' social skills when implemented effectively on a regular basis (Johnson et al., 2014; Laguador, 2014; Lin, 2015). It is, therefore, important to provide teachers with PD that incorporates elements of adult learning and allows them to draw upon their own experiences to refine their practices.

Ongoing support as they gain comfort and skill in the individual elements of CL as defined in Johnson and Johnson's (2009) social interdependence theory will also be necessary. Teachers need additional training and the opportunity to experience CL during the training. If teachers do not feel competent, they will not regularly implement the practice (Gisbert, Seuba, & Coll, 2017). The teachers in this study who reported having positive experiences with CL were the ones who implemented it most often and reported the least challenges. Their positive experiences may be due to their feelings of self-efficacy with the practice.

Professional Development for Cooperative Learning

Research indicated that CL is underutilized in schools for many of the same reasons as cited by participants in this study (Baloche & Brody, 2017; Molla, 2015). Teachers' knowledge, perceptions, and personal experiences may influence the

implementation of CL (Frykedal & Chiriac, 2014). Teachers often feel unprepared or undertrained and seek shortcuts in the practice. In their 2017 study, Kocabas and Erbil (2017) developed a scale to measure teachers' competency with CL methods. They found that teachers who received little training in CL considered the practice difficult and developed a negative attitude towards the approach, which often resulted in its limited use or improper execution.

There is a plethora of material from experts on what to include and how to conduct teacher PD for CL (Brody & Davidson, 1998; Gillies, 2016; Johnson & Johnson 2017; Kagan & Kagan, 2015; Slavin, 2014a). Having done extensive research on the topic, I found that Johnson and Johnson were the modern theorists most often referenced in literature. Their work together began and 1969 when the brothers David and Roger began training teachers at the University of Minnesota in the use of CL groups (Johnson & Johnson, 1999). The early work of Johnson and Johnson (1994, 1999) and Johnson, Johnson, and Smith (1991) at the University of Minnesota led to the inclusion of their social interdependence theory as part of their teacher training there. Social interdependence theory, which included the five basic elements of CL: (a) positive interdependence, (b) individual accountability, (c) promotive interaction, (d) social skills, and (e) group processing, became a part of their system for training teachers. Other studies and theories about CL included some, if not all, of the five elements (Gillies & Boyle, 2013; Kagan, 2015; Laal, 2013; Slavin, 2014a) indicating these elements were critical to successful implementation of CL and therefore foundational for teacher training in the strategy. Along with training in the five elements, it is important to

encourage teachers to experience CL through inquiry-based, active learning during their PD sessions to enhance their pedagogy (Miquel & Duran, 2017; Opdecam & Everaert, 2018). Johnson and Johnson (2017) put forward that participation in CL helps develop a strong teacher identity and encourages the teachers to become part of a community sharing a joint identity. The success of the PD is based on the process used during the sessions. Johnson and Johnson reported that for teachers to internalize the elements of effective CL, they should experience PD that ensures they

> (a) have mastery of the subject being taught; (b) engage in long-term implementation of the procedures being taught; (c) develop the required attitudes, values, and behavior patterns; (d) integrate the new procedures into their professional identities; and (e) achieve membership in the community of practice (p. 284).

Farrell and Jacobs (2016) reported that when teachers work together during PD and experience successful peer interaction using the five elements of social interdependence, they are more likely to want the same experience for their students. According to Farrell and Jacobs, teachers will better understand the CL process and see the value in it. Girvan, Conneely, and Tangney (2016) also stressed the value of teachers' firsthand experiences with the pedagogical strategies they planned to implement.

Jolliffe and Snaith (2017) reported that CL was more challenging to implement in a classroom when it was not commonly used throughout the school. In addition, by working together during the PD series, teachers will develop a common language and

process. This commonality will create a school culture making CL easier for everyone, teachers and students alike.

Cooperative Learning Challenges

When teachers in the study were asked why others might not utilize CL practices in their classrooms, their responses indicated that others might be uncomfortable with the practice or feel it is not worth the time and effort. Miquel and Duran (2017) acknowledged that the implementation of CL is often met with resistance due to the difficulties encountered. Due to the lack of training and vague understanding of the methodologies included in Johnson and Johnson's social interdependence theory, teachers often incorporate CL with little planning or structure. This appeared to be the case in my study as most participants related that they had little formal training in CL. Studies by Baloche and Brody (2017), Gillies (2014), Saborit et al. (2016), and Surian and Damini (2014) indicated that when teachers were not trained or experienced in CL, they found the practice challenging. CL was difficult to supervise and ineffective resulting in their negative attitude and reluctance to use it.

Many of the challenges reported by my study participants were echoed in literature. The challenges were attributed to the lack of understanding of CL due to little or poor training (Gillies & Boyle, 2010; Kocabas & Erbil, Molla, 2015; 2017; Slavin, 2014a). The participants pointed to time being the major issue both in the planning and implementation stages of CL. Time constraints due to curriculum demands and state testing also prevented regular implementation. Formation of groups, assessing students

fairly, controlling off-task behavior, and maintaining student motivation were additional key concerns expressed.

Time Demands

Literature corroborates the challenges the participating teachers identified including the additional time required for collaborating, planning, creating or locating resources and assessments, and implementing the process in their classrooms (Gutierez, 2015; Jolliffe & Snaith, 2017). In the Gillies and Boyle (2010) study, a teacher reported "There's a lot of work in finding suitable tasks, printing up roles, and finding resources" (p. 935). Gillies and Boyle agreed that CL requires careful preparation, however when all five elements of social interdependence theory are present, and students are trained in the practice, implementation is greatly simplified.

In reference to time constraints in the classroom, Ferguson-Patrick (2018) stressed the value of CL and cited it as an "intellectual pedagogy" (p. 98). She praised its value pointing out that it provided the opportunity to celebrate student knowledge through individual accountability and brought students' ideas and individual contributions together through positive interaction. Ferguson-Patrick made the case that the time was well spent as it helped increase students' communication and social skills, better preparing them for their future. It may take longer when students work in groups, however, during the process students' analyzation skills are enhanced resulting in better solutions to problems (Burke, 2011). Burke (2011) suggested smaller groups should be implemented when time is an issue so that all voices and ideas could be heard. To implement CL successfully, teachers must sacrifice some of the material they previously

covered through lecture in exchange for enhancing students' ability to communicate, collaborate, and problem-solve.

Ronfeldt et al. (2015) reported that when teachers worked together collaboratively, instructional planning time was reduced. Goodyear (2017) followed six teachers for one year as they participated in sustained PD on CL. Teachers in Goodyear's 2017 study reported that the combination of ongoing PD, peer collaboration, and systematic application of CL on a regular basis allowed them to become proficient thus reducing the planning and implementation time. Creating a collaborative community and encouraging more teachers to implement CL similarly may ease the time burden. By understanding the full value of CL, more teachers may be willing to reduce the quantity of material they cover in favor of the quality of student learning.

Group Formation

Group formation was another area of great consternation among the participants and in literature. In their article, Farrell and Jacobs (2016), stated that "With cooperative learning, teachers must understand the workings of effective groups and how to influence those workings, and they must gain the will to persevere in their attempts to guide students toward successful peer interaction" (p. 1). Molla (2015) in his study of English language teachers in Ethiopia found that cooperative groups were rarely implemented, and teachers often took shortcuts in creating groups resulting in problems during implementation. Teachers must create groups and structure tasks in ways that include clear expectations for behavior and learning outcomes (Gillies, 2016). Gillies indicated

that teachers must instruct students in group behavior. Students should be trained to work together, communicate, and accept group decisions for CL to be effective.

Several factors should be considered in the construction of groups. Gender composition, group size, and ability all affect the success of group activities. Gender composition of groups tends to influence the interactions among group members (Gilles, 2010; Molla, 2015, Webb, 1991). When boys outnumbered girls, the boys were likely to ignore the girls, while to the contrary, when girls outnumbered boys, the girls worked overtime to involve the boys to the determent of their own learning (Gilles, 2010; Molla, 2015, Webb, 1991). In both cases, boys outperformed girls. When groups were gender balanced, interactions were balanced, as was achievement (Gilles, 2010; Molla, 2015, Webb, 1991). Group size of three to four for sustained CL and pairs for brief interactions appear to have the best results as does mixed ability grouping (Farrell & Jacobs, 2016; Gillies, 2010; Molla, 2015). However, low ability students appear to benefit more from working with students of greater ability (Webb, 1991). In situations when same ability grouping is present, medium-ability groups perform best (Gillies 2010; Webb, 1991). However, homogeneous high ability and homogeneous low ability groups, when left on their own, both had detrimental effects on individual learning for the group members (Webb. 1991). Homogeneous grouping may be a strategy for teachers to consider when they have low ability students that need additional guidance and high ability students who function well independently. Gillies (2010) indicated that when 'friends' were grouped together, they initially appeared more motivated to attain their goals. However, in the end, they were less likely to challenge each other resulting in more decisions that were

erroneous. Teachers should be aware of the relationships between students before deciding on group placements.

CL can be formal or informal, and group size may vary. Informal groups are created for activities that last for a brief period, consist of only two to three people, and are usually used for quick brainstorming or to check for understanding (Brame, 2015). Examples of this are think-pair-share or turn-and-talk. Formal learning groups are created for longer-term activities. Formal learning groups have a clear structure including specific expectations, assigned roles and responsibilities, and often establish some type of group identity (Bell & Hernandez, 2017; Brame, 2015). Additionally, for longer projects or when students need additional support and encouragement, base groups may be employed. Base groups are long-term groups with stable membership (Johnson, Johnson, & Smith, 2014). These groups sometimes last a semester or the entire school year. Members of the base group often build stronger interdependence and caring relationships (Johnson, Johnson, & Smith, 2014). In situations where off-task behavior and student motivation are the key deterrents to the implementation of CL, the use of base groups may offer students the additional stability needed to engage in the practice.

Once groups are formed, there are other factors a teacher must consider to implement CL successfully. Students should to be taught appropriate ways to interact and work together, and teacher intervention may be required to maximize student interaction and learning (Brame, 2015 Farrell & Jacobs, 2016; Molla, 2015). When students are trained in communication and social skills, they learn to speak to each other in ways that allow for reasoned discourse resulting in enhanced student reasoning,

problem solving, and learning (Johnson & Johnson, 1999; Gilles, 2016). Teachers should step in and redirect conversations or clarify misunderstandings when necessary, although a certain amount of student autonomy is required to increase a sense of responsibility (Farrell & Jacobs, 2016; Gillies, 2015). Farrell and Jacobs (2016) stressed the importance of such autonomy to encourage students to look to group members first rather than the teacher for feedback. Roles should be assigned and tasks clearly designated to assure work responsibility is equally shared (Johnson & Johnson, 199; Molla, 2015). Through the assignment of roles, individual accountability encourages each member to do their part (Farrell & Jacobs, 2016). At the same time, students see that completed individual tasks contribute to the overall product and the learning of others in the group. Positive interdependence, therefore, encourages group members to support each other in the completion of all tasks (Farrell & Jacobs, 2016). In his recommendations, Molla (2015) stressed that to engage students teachers should create well-organized lessons and tasks, and assign roles according to students' skills, ability, and interests. With well-designed tasks, role assignments, and clear expectations, teacher use of CL can be a highly effective method to engage students in their own learning. By considering these factors, students are more likely to engage in their learning, which may result in less off-task behavior and greater student motivation.

Gillies (2016) indicated that, when the five elements of social interdependence are evident in group structure and tasks, students are more likely to "feel motivated to work together…accept personal responsibility for their contributions and behavior…respect others' contributions…commit to resolving disagreements…and work constructively

towards managing the task and maintaining effective working relationships" (p. 51). This should hold true for teachers as well. When teachers work together collaboratively in a similar fashion, they too can draw on the expertise of colleagues. They can enhance each other's practice and, in turn, improve learning for all students. By structuring the PD for this project in a way that allows teachers to experience the struggles and work cooperatively with their peers to plan and structure current lessons or unit plans to include CL, the teacher may be better prepared to implement the pedagogical practice.

Student Assessment

Participants in my study struggled with ways to assess their students fairly. Even though group work may be used as a teaching method, teachers must find ways to assess students' individual knowledge and develop the students' ability to assess their own learning (Frykedal & Chiriac, 2017). Lambert, Carter, and Lightbody (2014) pointed out that educators must establish ways to assess students' contributions fairly. However, in some assignments, individual contributions may not be visible. Teachers then must find a way to record those contributions either by individual accountability or peer evaluations (Lambert et al., 2014). When students use a document that allows the teacher to see each individual's contribution, less reliance on peer evaluations is necessary. In the Lambert et al. (2014) study, the teachers used a Wiki platform to identify individual contributions. AHS district uses G Suite, which is a collection of applications including word processing, spreadsheet, and presentation options all with revision histories that teachers can access to assess students' individual contributions. Teachers would need to observe diligently to gain insights into contributions to conversations, however.

Individual accountability is one of the integral parts of CL and key to preventing social loafing. *Social loafing* is a term sometimes used to describe the tendency for students to rely on others to complete tasks assigned during CL (Laguador, 2014). Opdecam and Everaert (2018) suggested incorporating peer assessment to prevent the behavior. They concluded that peer assessment improved communication and increased individual contributions. Peer assessment can be anonymous or reached through group consensus and gives students the opportunity to express their experience of peer cooperation. The scores can then be used to affect the individual or group grades. However, it does not always reflect the actuality of the interaction (Opdecam & Everaert, 2018). Students may feel pressured into giving inflated grades either due to friendship or due to fear of retribution. When group evaluation is included, it should account for students differing abilities (Sapon-Shevin, Ayres, & Duncan, 1994). Here again assigning roles or specific tasks can aid in this issue.

Opdecam and Everaert (2018) questioned if it is even necessary to grade CL. They found that when well-structured and supported, CL was effective when instituted in a non-graded environment. T3 in my study found this to be the case. She, as in the Opdecam and Everaert study, found that the CL increased student's understanding and knowledge retention, which she then tested through an individual assessment. It is important to identify within the task what will be evaluated. The teacher must clarify if it will be the process or the product that is stressed in the grading (Doklstra, Latijnhouwers, Norbart, & Tio, 2016). Students need to know at the beginning of the assignment how they will be assessed and what will be assessed.

Controlling Off-Task Behavior and Student Motivation

Teachers in my study complained of off-task behavior and unrelated conversations. Baloche and Brody (2017) identified these among the challenges they discussed in their report. They indicated that simply putting students in small group settings does not "ensure quality cooperation or learning" (p. 276). It requires planning and oversight. However, Baloche and Brody reported that some of what is identified as off-task or irrelevant conversation is partly in the perception of the teacher. Teachers may have to adjust to the different appearance of learning. During CL, students share ideas, clarify and sometimes challenge findings, and engage in discussions that at times may seem tangential but do extend understandings and allow students to make new connections (Baloche & Brody, 2017; Gillies, 2016). Teachers need to be vigilant in monitoring group behavior, but at times, they also need to sit back and observe the interactions before stepping in. This was a personal struggle put forth by teachers in my study. Having a classroom management philosophy that includes a willingness to delegate responsibility and allow students to problem solve, will assist a teacher in the implementation of CL (Frykedal & Chiriac, 2014). Students must also learn how to monitor their own behavior and accept the responsibilities involved in group work.

Student motivation was another concern for participants in this study. Lack of student motivation was also reported as a major challenge in Molla's (2015) study. Of the 52 participants in his study, 28 strongly agreed, and 20 agreed that student motivation was "one of the hindering factors" (p. 2459) in the implementation of CL. However, in

his study, Molla found to the contrary that students often engaged in detailed conversations, provided assistance when needed, and achieved better outcomes

Well structed CL provides supports to counter some off-task behavior and enhance student motivation. Fernandez et al. (2017) reported that CL, when applied on a sustained basis, increased student motivation and curbed off-task behavior. Slavin (2014) asserted that student motivation was increased when students worked together towards a common goal. Students trained in cooperation demonstrated less off-task behavior (Slavin, 2014a). In their report, Opdecam and Everaert (2018) suggested allowing students some choice in methods or products also improved on-task behavior and deterred the tendency for social loafing. Burke (2011) reported that social loafing was more difficult in a CL setting when roles and responsibilities were assigned. In addition, to ensure that those concerned about their grades do not exclude students of lesser ability, it is important to focus on the collaborative process rather than the final product (Le, Janssen, & Wubbels, 2016). To counteract off-task behavior and motivate students to contribute, teachers should instruct students in collaboration, set high expectations and include a grading schema that honors the process over the product. Molla (2015) stresses that teachers must create clearly defined tasks with assigned roles and responsibilities and provide a supportive environment in which students can carry on the type of discussions that allow them to challenge each other's findings and work together to achieve the intended outcome.

Project Description

As a result of the findings from this qualitative study and in conjunction with the literature reported here, I developed a project that includes a 3-day PD series and ongoing encouragement and support in the form of learning teams. This project is meant to aid those implementing CL at any level. The objective of this project is to establish a district-wide understanding of Johnson and Johnson's (2009) social interdependence framework and develop additional and ongoing supports. CL is harder to implement in a classroom when it is not commonly used throughout the school (Jolliffe & Snaith, 2017). As more teachers utilize the strategy and share a common language surrounding it, the practice may become part of the district culture and easier to implement more frequently and in a highly effective manner.

Project Goals

The goals for the 3-day PD series were based on elements of Johnson and Johnson's 2017 recommendations for teacher training, and Knowles, Swanson, and Holton's (2005) principles of andragogy. My first goal in developing this PD series was to provide the participants with a safe, structured environment in which they can experience CL in a positive manner. As participants in the study indicated, negative prior experiences with CL deterred them from implementing the practices. Johnson and Johnson's suggestions that teacher's "develop the required attitudes, values, and behavior patterns" and "integrate the new procedures into their professional identities (p. 284) support this goal. As suggested by Knowles, Swanson, and Holton (2005), being aware of the learner's self-concept, prior experiences, and readiness to learn will help the

instructors in the PD sessions connect the content to the participants. The 3-day PD series will provide a cooperative environment for learning by engaging participants in discussion. This positive experience may render them more open to integrating the strategies into existing units within their curriculum.

My second goal in the designing this project was to enhance educator's understanding of and effectiveness with, the elements of Johnson and Johnson's (2009) social interdependence theory. Johnson and Johnson (2017) recommend that PD participants be afforded the opportunity to "integrate the new procedures into their professional identities" (p. 284). Again, being aware of the learners' orientation to learning and need to know will help to engage the participants (Knowles, Swanson, and Holton, 2005). As participants take part in the activities, become more familiar with the content, and internalize the experiences, it may make them more likely to embrace the CL and increase the frequency and quality of it in their classrooms.

Finally, the third goal was for teachers and administrators to work together to establish guidelines, create materials and resources, and develop a common language to make the implementation of CL easier, universal, and more frequently implemented throughout the district. This goal aligned with Johnsons and Johnson's (2017) suggestion that PD afford participants the ability "achieve membership in the community of practice" (p. 284). This goal directly supports Knowles, Swanson, and Holton' (2005) principle that the adult participants' motivation to learn should be recognized as an element of adult learning sessions. By meeting these goals, the adult learners will be engaged and benefit from the methods and delivery used to improve their use of CL

possibly resulting in improved student outcomes. Finally, As Dewey (1933) said, "We do not learn from experiences. We learn from reflecting on experience" (p. 78). Therefore, through continued participation in monthly learning team meetings during the school year, the educators will continue to provide each other with ongoing support as they implement CL into their classroom practices and reflect on the process.

The 3-day series was designed to provide a CL atmosphere in which teachers can experience the environment they will be challenged to create in their own classrooms. Furthermore, the educators present at the training will work together to establish a district-wide description of what CL implementation looks like. The description will be shared with all district administrators and staff to help clarify expectations and identify and encourage the nuances of true CL when meeting during post-observation discussions or in learning teams. Johnson and Johnson's (2009) social interdependence framework, which stresses the inclusion of each of the five elements essential to CL helped guide the development of this PD series.

Resources, Supports, and Potential Barriers

Achievement High School District maintains an ongoing PD program. It is standard practice for teacher leaders who serve as Achievement Coaches and have been trained by New Jersey Department of Education to design and implement sessions throughout the summer and during the school year. They provide ongoing support by leading learning teams and mentoring teachers throughout the year. The PDC and administrators work to align PD with the school improvement plan regularly (Killion & Roy, 2009). The PDC and Achievement Coaches are available to assist in the delivery of

the 3-day series and with ongoing support of the initiative. It is also common practice for the administration to set aside the time and, when possible, use district funds to purchase supplies and compensate teachers who attend PD sessions beyond the contracted hours. To support teachers and administrators in this process, this PD has been well planned. It will be interactive with high-quality presenters, collaborative, and focused on both content and practice (Badri, Alnuaimi, Mohaidat, Yang, & Al Rashedi, 2016; Bayar, 2014). Results from this study guided the content of this PD series.

It is past practice for AHS to offer such summer sessions and use Title II money to compensate teachers who attend. Attendance for this initial 3-day series will be capped at 32 teachers and administrators due to cost factors. Additionally, 32 attendees allow for easy grouping into pairs and groups of four, which research shows to be the most effective pairings (Farrell & Jacobs, 2016; Gillies, 2010; Molla, 2015). As this first iteration of PD will be held outside teacher-contracted days, administrators will not be able to make it mandatory. However, they may suggest that new teachers or teachers currently struggling to attain a proficient rating in McREL Standard 4F attend. As heterogeneous grouping has been shown to benefit all group members, teachers rated highly effective in McREL 4F will be encouraged to attend the initial 3-day series as well (Farrell & Jacobs, 2016; Gillies, 2010; Molla, 2015). They will serve as support for struggling participants while at the same time gaining new insights and ideas themselves. As part of the budget, I will request presenter status for three Achievement Coaches who have been rated highly effective to assist in facilitating the PD.

To conduct this PD successfully, I will need access to the Media Center and the computers there, a district laptop attached to the Promethean Board, and access to the Internet. I will share access to the presentation resources Google Drive Folder with all participants. I will need Post-it chart paper, Post-it notes, index cards, sharpies, pens, and pencils. All these supplies should be readily available through the PDC.

The potential barriers include teachers' reluctance to attend a 3-day PD training in the summer, a lack of interest in CL training, and a lack of common planning time to support ongoing learning team meetings. Although teachers in the AHS District routinely attend summer workshops, 3 consecutive days in the summer may be difficult for some. I will follow the district policy of ending PD session at 1:30 instead of including a one-hour lunch break and ending the sessions at 2:30. This may make it easier for individuals concerned with childcare arrangements or those having commitments later in the day. Teachers who do not attend the summer session will be scheduled to attend sessions on in-service days during the school year as part of their personal PD plan.

The district initiative for the next 3 years is a focus on diversity, equity, and access. To increase interest in CL, I would ask administrators to encourage teachers to attend the sessions to help with the implementation of CL, as it is pedagogical support for addressing diversity in their classrooms (Sencibaugh & Sencibaugh 2016). Administrators will become active members of grade level or content level learning teams to support this initiative and learn alongside the team members. CL allows teachers to design opportunity for student learning in ways that address varying student interests and makes differentiation easier through the assignment of roles and

responsibilities within the tasks (Molla, 2015). To alleviate some of the teachers' concerns and better prepare them for CL implementation, PD sessions developed for this project address many of the topics expressed as challenges to implementation by the teachers and the literature. In addition to specific exercises to address the five elements, teachers will be instructed in the theory of CL; the differences between CL and collaborative learning; the value of preparing, structuring, and monitoring CL activates; and the importance of training students and reinforcing that training throughout the year. They will also be provided with time and support to work collaboratively with their peers. I have also included time for attendees to work independently to integrate their learning into existing teaching units or to create new ones.

To engage teachers who are not comfortable implementing CL and may not be interested in attending future PD sessions on the topic, the district initiative will require teachers to include a focus on CL and McREL Standard 4F in their personal PD plans. All staff members will be compelled to comply during the school year. By basing the PD on the teachers' needs as identified in my study, I may be able to overcome this barrier and engage teachers willingly in their development. I will assure them that the sessions will be interactive, responsive to their needs, and include independent and collaborative time to plan lessons and locate or create resources for implementation into their own classroom practices.

A barrier to establishing the ongoing learning team meetings is the lack of common planning time during the school day. AHS administrators have repeatedly refused to make time available during the school day. They have; however, offered to

allow contracted afterschool staff meetings to be replaced with learning team time when possible. They have also made time available during in-service days for learning teams to meet. Teachers who are looking to improve their practice may be willing to meet on their own time during common lunch periods or after school once a month when other contracted time is not available. Again, if meetings are focused on meeting teachers' identified needs, this barrier may be overcome as well. Per personal conversation on June 21, 2018 with the assistant superintendent, she confirmed that if the benefits of the learning team meetings become evident during teacher observations, the administration might reconsider including common planning time in the following school year's schedule.

Project Implementation

The PD will be offered for 3 consecutive days in late August before the start of the 2019-2020 school year. The sessions will run from 7:30 AM -1:30 PM with two 15-minute breaks. This is the standard PD schedule in the AHS district. Participants usually prefer to work straight through until 1:30 rather than working until 2:30 with a scheduled one-hour lunch. The sessions will be held in AHS Media Center, so teachers will have access to district computers and printers. The Media Center also houses large tables at which collaborative work can take place. To increase vertical articulation, district teachers in grades 7-12 and administrators will be invited. Teachers will be encouraged to bring materials from current lessons that they would like to transform into a CL format.

During the PD sessions, the presenters will provide collaborative and independent planning time and model the use of such time. By creating a cooperative environment during the PD sessions, participants may work together to create a shared library of resources and identify additional sources to assist in creating future CL tasks and assessments. I have designed the sessions to help participants learn and adapt CL protocols to simplify implementation procedures in their own classrooms. Educators in the sessions will work through a CL process to create a district vision of CL with common language and implementation practices. Establishing and implementing a district wide understanding of CL among staff and students may limit the repeated student training previously found necessary to help students take part in successful CL. Although the solutions for time constraints voiced by participants in my study may not be directly addressed during the PD series, helping teachers to become familiar with the process and building a library of resources should decrease the time required to plan and implement CL. Also, if district teachers implement CL more frequently using a common language, student training time will be decreased.

Before ending the 3-day PD session, learning teams will be established, and monthly meetings will be encouraged. The suggested format for the learning teams will be Colleague Circles as demonstrated during the PD series. The creation of learning teams is a PD model that has a positive impact on school improvement (Peppers, 2014). The district is currently moving towards learning teams of choice rather than mandatory department learning teams. This would support the formation of learning teams for CL.

On the first day of the PD, the presenters will begin by asking teachers to self-assess their prior knowledge and experiences (see Appendix A). The session will then continue with a focus on the theoretical underpinnings of CL. A Google folder will be shared with all participants containing the training resources. Additionally, attendees will be invited to add to a participants' folder any resources they uncover during the training. By encouraging participants to share with their colleagues, presenters will create a collaborative atmosphere from the beginning. Participants will take part in a warm-up team-building activity during which they will share some of their experiences with CL. Before any information about CL is presented, participants will watch YouTube video, *Cooperative Learning in Action* (Brumley, 2012), and record their impressions. The YouTube video contains a recording of a CL classroom activity. A brief discussion will follow. The participants' recorded impressions will be revisited later in the training to evaluate their enhanced understanding of CL.

Next, participants will take part in a CL jigsaw activity. Formal learning groups will be employed for this activity. Presenters will establish base groups, long-term groups that participants will return to often throughout the training, by creating teams of four consisting of teachers of similar grade level or content area. The jigsaw activity will result in the creation of posters and will be followed by a Gallery Walk. On the posters, participants will illustrate what CL implementation might look like in their grade level or content area. During this session, presenters will act as instructors. Presenters employ an educational video (Rosenau, 2013) to present an example of how a Jigsaw activity is conducted. The learning objectives will be specified, and the evaluation criteria

explained. Group size and composition will be predetermined, and roles will be described and assigned by the presenters. The task will be clearly explained and require positive interaction, social skills, and individual accountability with the criteria for success outlined. The presenters will closely monitor the groups and intervene when necessary pointing to opportunities to employ positive interdependence, promotive interaction, and social skills.

After the gallery walk is completed, teams will reconvene to discuss their new learnings. To demonstrate group processing, the presenters will guide participants through a session by asking group members to reflect and discuss how the group functioned. Presenters will model feedback delivery and allow time for groups to discuss and report out alternative ways of handling issues that arose during their interactions. Presenters will make visible the planning that went into the activity.

The final 45-minutes of Day One will be open for questions, small group discussions, and applications of processes learned that day. Participants will complete Day One Survey, which assesses participants' reactions and learnings as described in Guskey's (2000) Professional Development Evaluation. The day will close with a 3-2-1 Exit Ticket asking participants to identify three things they learned, two things they would like to know more about, and one thing they wish had been done differently. Data from the Exit Ticket will serve as both a formative and summative assessment. Presenters will use feedback from Exit Ticket and Day One Survey to assess participant's leanings and make any adjustment necessary to Day Two's activities.

Day Two will begin with an informal CL team building warm-up activity. Each team member will receive a baggie with puzzle pieces. They must work together to complete the puzzle, but they may only touch their own puzzle pieces. Team members may point or make suggestions, but they may not touch the other members' pieces. This activity is meant to elucidate the point that every member of the group is valuable and has something to contribute reinforcing the idea of social interdependence. Presenters will conduct a brief group processing activity will following the puzzle activity. After group processing, participants will interact briefly in a think-pair-share to assess their achievement of yesterday's learning goals. Employing adult learning theory, by gaining participants input to address their needs will help them see value in the activities and more readily integrate them into their practice. To allow participants to identify their expectations and assess their learning goals, they will take part in 3-5-minute focused discussions such as turn-and-talk or think-pair-share. Brief focused discussion activities can be used in the middle of a session to clarify or review new understandings and at the end of sessions to serve as a closure, review, and reflection. Group processing will be included after all longer activities.

In the first formal CL activity on Day Two, participants will return to teams established on Day One to develop ideas for a district definition of CL. Again, presenters will assign group members roles and responsibilities and state the task clearly. An Affinity Mapping activity is a silent activity that allows members to write down their ideas and then combine them with and build upon the ideas of their team members. After consolidating their ideas silently, the team members will discuss their decisions. Each

team will create a definition that will increase teachers' understanding of CL and allow administrators to evaluate teachers' practice during teacher observations more uniformly. Each group will report out, and whole group discussion will follow.

Following a short break, participants will be randomly reassigned into groups of six. They will view and analyze videos of various CL learning strategies in small groups and prepare to report out what they observed. Whole group discussion will follow. Through this process, participants will see the value of small group conversations, identify the nuances each member brings to the discussion, and gain an appreciation for the additional clarification the whole group discussion adds. However, clear expectations for the task will not be stated nor will roles or responsibilities be assigned. This activity will conclude with time for group processing. By allowing for group processing, participants may recognize the importance of the practice. During the group processing conversation, presenters will ask participants to reflect on the influence the lack of structure had on the outcome of the project. Participants will also be asked to analyze the impact the additional team members had on their conversations. Participants will be asked to consider if additional structure and smaller team size would have improved their experience. Follow up discussion will allow participants to examine the experience from the viewpoint of both teacher and student.

Later in the day, participants will be reassigned into new groups of four and given the task to work together to create a brief lesson that incorporates a CL activity based on a New Jersey Student Leaning Standard. The group members will employ CL structure during this process with roles and responsibilities identified. Group membership will be

designed to create as varied a mix of content area and grade level teachers and administrators as possible to stress the process rather than the content. Presenters will work closely with the groups during this process modeling the teacher as the guide in a CL activity. At the end of Day Two, working in self-selected groups of three to four, participants will examine examples of CL lessons they implemented in the past. They will identify the strengths and weaknesses of the implementation and then work with group members to identify ways to restructure the lesson to achieve a better outcome. During this time, administrators will meet to reflect on the definitions of CL established earlier in the day. Presenters will model CL facilitation by circulating during the work period to keep participants on track, intervening or assisting as needed, and pointing out opportunities for promotive interaction, positive interdependence, individual accountability, and improved social skills. Day Two will end with a debrief of the day's activities followed by a request for participants to complete an Exit Ticket and the Day Two Survey.

I have designated Day Three of the PD to be a collaborative work-day. The Warm-Up activity will be a simple Partner Talk activity during which participants will meet with someone they have not worked with during the PD series. They will compare their individual progress on Day Two's goals. The next 30 minutes of the day will be devoted to collaboration among all staff present to create a district description of CL. Administrators will add the definition they developed at the end of Day Two to the center of poster paper on each table. Participants will return to original base groups from Day One and take part in a Silent Discussion activity in response to the definition in the center

of the page. Each team member will write a response in the corner of the page closes to him or her. After 1 minute, participants will turn the paper and react to the previous member's response. This will continue for two more turns until the paper is returned to its original position. There will be a brief discussion to clarify any of the points made on the paper, and then administrators will collect the posters. Participants will reflect on the process and discuss how they could utilize the Silent Discussion in their classrooms.

The next few hours will be devoted to the participants applying their enhanced knowledge to their own practice. Brumley's (2012) *Cooperative Learning in Action* video will be viewed again as participants look to see if their increased awareness of CL gives them a new perspective on the video. Participants will discuss what they noticed now that they did not see the first time they viewed the video. They will use a My Turn, Your Turn, Our Turn protocol to make suggestions for ways to improve the activities in the video due to their new understandings. Next, teachers will work on current curricular units, collaboratively when possible. They will add CL activities, where appropriate, after receiving feedback from colleagues. They may access additional resources from the Presenters Folder and add any new resources they locate to Participants' Folder during this process. Administrators in attendance will read and discuss *Making Cooperative Learning Powerful* (Slavin, 2014b). They will then use their new understandings to edit the district teacher evaluation observation document. At approximately the 4-hour point, base groups will reconvene to present 2-minute summaries of the units they created and receive feedback. Administrators will join teacher groups to report on the progress the

made with the evaluation observation document during this period. Participants will have an additional 30 minutes to refine their work incorporating the feedback that was offered.

To help create a final version of the district definition of CL, one of the final activities of the PD series will be a Colleague Circle. A Colleague Circle will be the suggested format for future learning team meetings. A Book Study will also be suggested. Allowing adult learners to identify their own area of need is more likely to result in a commitment to the process (Peppers, 2015). Therefore, at the end of the Colleague Circle, teachers and administrators will be encouraged to create or expand current learning teams based on content, grade level, or specific areas of interest. The last 30 minutes will be used to employ group processing in small groups and then report out to the whole group with reflections on the results of the 3 days. Teachers will then be asked to complete the Post-Assessment Survey before leaving.

Roles and Responsibilities

Having been rated a highly effective teacher for the past four years with a distinguished rating in McREL Standard 4F each year, I have a strong foundation in CL. I have served on AHS District PD Committee and thus have planned and delivered district PD numerous times through my tenure. I have been trained by both New Jersey Department of Education and National Network of State Teaches in ways to create and deliver PD. Therefore, I will lead the 3-day PD. I will also invite four of my district colleagues who have also been trained as coaches by the New Jersey Department of Education and have been rated as distinguished in McREL Standard 4F for the past few years to serve as trainers. These teachers are experienced presenters at both the district

state levels. My fellow coaches and I will become members of learning teams and attend meetings regularly. However, we will not run the meetings but will help facilitate them at times. I will provide ongoing support with materials the learning team members can use at their meetings. The learning team meetings will be open to teachers who did not attend the original training to increase interest in and support for the ongoing implementation of CL throughout the district.

During the training sessions, participants will work together in both student and teacher roles. For long-term implementation of CL to occur, teachers should understand the framework of the practice and receive continued "support, encouragement, and assistance from colleagues who are implementing the same practice" (Johnson & Johnson, 2017, p. 288). The training sessions during the 3-day series will begin to establish that type of environment. Participants will work together to model implementation and support each other during the process. Social support is important as teachers share resources and gain confidence in the practice. Johnson and Johnson (2017) found that when training sessions were structured cooperatively, teachers developed supportive relationships. Developing such relationships at AHS could serve as a foundation for ongoing implementation of CL and promote strongly functioning learning teams. Based on Johnson and Johnson's suggestions, instructors will model both formal and informal CL during the training sessions to reinforce the procedures for both. It is important to stress to the participants that students must be instructed and supported in the process of CL until it becomes ingrained. This will help eliminate many of the struggles of CL.

Project Evaluation

Evaluation Plan

When implementing PD, it is important to evaluate the results to improve or supplement its long-term effectiveness. The greatest benefit of evaluation comes from not just evaluating teacher satisfaction but also assessing expected instructional change the PD will inspire (King, 2014). Both formative and summative assessment methods will be utilized during the PD sessions to enable immediate adjustments in the presentation when necessary and to assure the effectiveness of the overall training. Guskey's (2000) first four levels of evaluation of PD will guide the evaluation plan.

Guskey's (2000) evaluation Levels 1 and 2, participants' reactions and participant's learning, will be assessed at the end of Day One and Day Two and on the final survey at the end of Day Three (see Appendix A). Level 1 and 2 will be assessed with a three-question survey at the end of Days One and Two (see Appendix A) to determine if the physical environment was comfortable, if the participants' time was well spent, and if the content presented will be useful in their classroom. Each question will be followed by an optional open-ended question asking for their suggestions for improvement.

Formative assessments will be ongoing throughout the sessions. Time will be included for participants to complete a summative evaluation at the end of the Day Three (see Appendix A). This summative survey will address Guskey's (2000) Levels 1 through 4. Level 3 addresses organization, support, and change. Level 4 addresses participants' use of new knowledge and skills.

Formative assessments will include presenter observation and group report-outs after group processing activities. Reflective questions will be used to gather real-time data. Questions such as "How can you use this activity in your classroom?" "How did you feel during that activity?" "How will you engage reluctant students in small group conversations?" "How has your concept of CL been affected by today's activities?" and "How have your ideas of assessment in CL been affected by your experiences here?" Most activities will have the opportunity for discussion and reflections included. An activity such as the 3-2-1 Exit Tickets at the end of Day One and Two are formative in that changes can be made for the following day's presentation if necessary. However, they are also summative, as they will assess the level of learning achieved on that day's topics.

Justification for Evaluation

The ongoing formative and summative assessments during the sessions will clarify participants' understandings or make visible their misunderstandings and evaluate the learning that has occurred (Dixson & Worrell, 2016). By having participants self-assess in these ways, they will reflect upon their ability to immediately apply the learning to their classrooms and impact student learning (Cai & Sankaran, 2015; de Paor, 2016). This type of formative assessment supports Knowles, Swanson, and Holton's (2005) concept of andragogy in which the participants' needs and concerns are addressed. The information gathered through the surveys and ongoing reflective questioning will help me gauge the effectiveness of the program and make immediate or long-term adjustments.

Stakeholders, Objectives, Goals, and Outcomes of the Project

The key stakeholders in this project are AHS district teachers and administrators. The over-arching objective for this project is to establish a district-wide understanding of Johnson and Johnson's (2009) social interdependence framework and develop additional and ongoing supports for enhanced implementation of CL. Participants from this study revealed that although they were rated highly effective in the use of CL, they still faced challenges. They believed that many of their peers avoided CL for similar reasons. During the interviews with the study participants, seven out of 10 expressed concern that there was a lack of fidelity among administrators when it came to administrators' understanding of CL and its components. Therefore, by creating a common understanding and making supports available, more teachers may implement CL in ways that are more effective.

The goals for this project were based on Knowles, Swanson, and Holton's (2005) principles of andragogy and Johnson and Johnson's (2017) recommendations for teacher training. The first goal was to provide the participants with a safe, structured environment in which they can experience CL in a positive manner. The second goal was to enhance educator's understanding of, and effectiveness with, the elements of Johnson and Johnson's (2009) social interdependence theory. Finally, my third goal was for teachers and administrators to work together to establish guidelines, create materials and resources, and develop a common language to make the implementation of CL easier, universal, and more frequently implemented at highly effective levels throughout the district. The overall evaluation goals were to assure that participants reactions were

positive, they acquired the intended knowledge and skills, received the support needed to implement change, and that they had the time and support to effectively apply the knowledge and skills presented to affect student outcomes positively.

Project Implications

Social Change

This project study may facilitate positive social change by encouraging and supporting teachers as they incorporate CL practices more frequently. Doing so, educators will provide students with skills to be college and career ready. Enhancing 21st century skills such as communication, collaboration, and problem solving will better prepare more students to overcome the challenges of collaboration and teamwork while they reap academic, social, and emotional rewards (Chan & Bauer, 2015; Johnson & Johnson, 2009; Gillies, 2014; Laguador, 2014). Ultimately, teachers will be better trained to prepare students to successfully collaborate and network both locally and globally as they enter the workforce.

Local Level

This project has the potential to benefit AHS teachers, administrators, and students in the district. The PD series may improve AHS teachers' understanding and confidence and result in improved effectiveness and increased implementation of CL. By teachers and administrators working together to develop a common understanding of CL, teacher evaluations will become more consistent and valid, and CL will be implemented more regularly at highly effective levels. Administrators will be able to provide new or struggling teachers with examples and support as they work to implement CL. The

establishment of learning teams for CL will continue to support those who attended the summer session. The learning teams will be open to other staff members to encourage them to improve their implementation of CL.

Conclusion

In this section, the proposed 3-day PD series and follow up learning teams resulting from the analysis of the data collected during this study were described. Also included in this section were the rationale for project genre and content, a literature review of research-based practices, and the description of the implementation and evaluation plans for the project. The section concludes with the project implications for social change and the importance of the project at the local level and in the larger context.

Section 4: Reflections and Conclusions

Introduction

The purpose of this project study was to examine the motivation, strategies, and practices employed by a representative group of teachers at AHS who were rated highly effective on their 2016-2017 annual summative evaluation in the implementation of CL. The resulting project, a 3-day PD series and ongoing learning teams, incorporated ideas intended to enhance district-wide understanding of CL and support teachers' enhanced implementation of the practice. In this section, I discuss the strengths and limitations of the project and offer recommendations for alternative approaches. In addition, I reflect on my growth as a scholar, researcher, and developer of PD. The section concludes with recommendations for future practice and research.

Project Strengths and Limitations

Strengths

Implementing a well-structured, intensive 3-day PD series may offer the teachers they type of additional training and support the participants in my study indicated they needed to create CL environments in their classrooms successfully. To prepare students for future college and career environments, teachers must help develop collaborative skills in the students they teach today. Because the importance of providing students with regular practice with CL at highly effective levels, it is essential that teachers not yet doing so are provided with the skills they need to integrate CL in their teaching practice. I believe that the 3-day PD developed based on the findings from this study can equip participants with the training and support they need to implement CL at effective levels.

When teachers use CL, they are required to determine the learning objectives, plan the appropriate outcomes, prepare group activities and procedures, organize the groups, and in most cases, assign the tasks within the groups (Laguador, 2014; Allan, 2016). Teachers need training not only in their subject area content but also in the procedures and attitudes required to implement pedagogical practices such as CL successfully (Johnson & Johnson, 2017). Because the PD sessions were designed to address some of the challenges illuminated by the participants in my study, teachers in attendance should be able to prevent some of the issues related to CL implementation as well as be prepared to address other issues if they occur. Finally, the participants should experience CL in a positive and supportive environment and have the opportunity to work collaboratively with colleagues to improve their practice. I expect that they will leave the sessions with a clear understanding of CL as well as resources and lesson plans that will allow them to use the strategy. The development of learning teams should also provide teachers with the ongoing support necessary to sustain and enhance their practice.

Limitations

A limitation of this project is that, initially, only 32 teachers and administrators out of approximately 135 district staff members will attend. This may not be a large enough percentage of staff members to change the school culture immediately. However, through the implementation of a yearlong initiative focused on CL, the culture should slowly adjust, I anticipate, to include more frequent CL at higher levels of effectiveness. However, local, state, and federal mandates such as school initiatives and standardized testing may interfere with the additional class time needed to implement CL

Additionally, many of the challenges that teachers face, which make CL challenging to implement, cannot be completely remediated through the training. A final limitation of this project is that it was designed in response to the practices and challenges identified by teachers at AHS. Should the project be presented in other districts, it might be necessary to consider how teacher needs and environmental challenges may be different.

Recommendations for Alternative Approaches

The problem addressed in this study was that, during the past 3 years, only 32% of AHS teachers were rated highly effective in the McREL teacher evaluation Standard 4F that focuses on CL as reported in PDC meeting minutes from October 12, 2016. To address this problem, I conducted a qualitative case study. I interviewed 10 teachers rated highly effective in that McREL Standard 4F to uncover their motivation, strategies, and practices. I also examined 2 weeks of their lesson plans, resources, and assessments. I could have conducted a quantitative study, which would have allowed me to include a larger percentage of AHS staff. In that scenario, I could have used a survey to assess participants' knowledge, comfort, and perceived effectiveness of CL implementation. Furthermore, rather than study highly effective teachers' implementation of CL, I could have explored why struggling teachers did not include CL in their teaching practices. By interacting with a different set of participants, struggling teachers, I may have been able to make their struggles clear and identify their needs. The problem could have also been addressed qualitatively from the administrators' point of view to gain a better understanding of the criteria they used for issuing highly effective ratings. If I had

focused on administrators as my participants, I may have requested copies of redacted notes taken during teacher observations of both highly effective and partially effective teachers. During interviews with the administrators, I would have asked them to explain what they were observing when they were completing their notes, and what they would have had to see to give highly effective ratings. Finally, administrators could have been included in the existing study to gain understanding and insight into what they consider when rating a teacher highly effective in CL.

The 3-day PD with self-guided learning teams I developed to address the study problem is not the only option. Learning teams structured as book studies led by teachers who are highly effective in CL could have been one option. Another option might have been individual action research projects supported by monthly meetings led by district coaches adept in CL. District coaches could have observed lessons in a nonevaluative manner and offered feedback to the teachers. Lesson studies were another method through which teachers could collaborate to plan lessons, share resources, and then observe one another during the implementation of the shared lesson.

Scholarship, Project Development, and Leadership and Change

Scholarship

While pursuing my EdD at Walden, I learned many things about curriculum, instruction, and assessment and about myself. In my 3 and a half years in pursuit of my doctoral degree, I found that the coursework was grueling at times. That taught me to be committed and to push through. However, it was not until I began the research for this project study that I realized the change in me. I learned not to take things at face value,

to look for problems, create and ask questions, and analyze the results. These are lessons I will carry with me beyond the completion of the project and this degree.

I had done very little research in the past. The process of completing this doctoral study pushed me to learn how to do research, explore databases, read peer-reviewed journals, and synthesize information. I learned to look at the data collected in a multitude of ways rather than going with my first interpretations. I also learned to look for patterns and identify outliers. Through this process, I became a better listener and a better processer. By identifying a problem within my district and finding a framework that helped me create the research questions, I was able to create a network of individuals who could help me answer those questions. Completing the project study also prepared me to continue this process in other educational areas.

Prior to conducting this study, I had not had the occasion to sit with some of the best teachers in the district and talk about learning, both theirs and their students.' It was also rare that I had the opportunity to scrutinize their practices by examining the resources they used. Through these opportunities, I gained further understanding of CL. I also gained more knowledge about the AHS district and about myself. This process pushed me to become a better teacher and more importantly a better learner.

Project Development

I have delivered PD in the past, but it was usually predesigned. Along with the other presenters, I simply revised the script I was given. Before this project study, I had never created a total PD package. This process allowed me to address an issue I was aware of in my district and develop a 3-day PD series that may change the culture of the

district. Completing the research for this project helped me understand the elements necessary to make CL successful. Speaking with the participants rated highly effective in CL gave me insights into the problems they and others might face in AHS. Being able to identify a problem, gain insights into the how and why of the problem, and then creating a possible solution to the problem is a skill that I will be able to take with me into other areas of education.

Leadership and Change

Although I have served on many committees at the local, state, and national levels, I never truly felt confident in my ability to lead those committees. During the pursuit of this degree and the development of my project, I felt my confidence growing. I found that, due to the coursework and research I was completing, I had more information and was able to contribute to discussions at higher levels. In addition, if I did not have the information, I was adept at locating and interpreting valid and reliable sources. Especially in the AHS PD Committee, I found that I could take on a leading role in discussions about practices and offer positive solutions. By developing my leadership skills, I can influence others around me and take part in the decision-making process that can influence teaching and learning in the district.

Reflection on the Importance of the Work

Having come into teaching as a second career following one in business, I know the importance of proficient collaboration. This is a growing concern for both education and business worlds (Moore, 2016; National Research Council, 2012; Scott, 2015; U.S. Department of Education Office of Educational Technology, 2017). Research indicates

that the ability to work with others in collaborative settings is a key quality that employers look for in the individuals they hire (Bedwell, Fiore, & Salas, 2014). It is therefore critical that we provide today's students with the opportunity to learn and practice the skills. We cannot put them in groups and expect them to work collaboratively. CL is the first step in helping students learn how to collaborate. It requires teachers to understand the processes involved and train their students how to speak to one another, contribute their ideas, and respect the ideas of others. Through CL, students come to understand that group members have specific roles and responsibilities, and each must do their part to render a successful product. Both my research and published research show that teachers are rarely instructed in the complicated process of CL and, therefore, struggle to implement it. By developing a PD that is based on research and guided by the needs of the teachers I interviewed, I have grown as a scholar, but more importantly, I too have grown as a collaborator.

Implications, Applications, and Direction for Future Research

This project has the potential for far-reaching positive social change. Implementing this PD at AHS and supporting the staff as they work together to increase the implementation of CL may change the culture in the district. Both students and faculty might work together collaboratively to address educational as well as social issues. I could also share this project with colleagues in other districts or at conferences. By sharing this research and the PD developed with teacher education programs, more novice teachers may be prepared to include CL in their practice at high levels from the beginning of their teaching career. Increasing the number of teachers who implement CL

and the effectiveness level at which they do so may better prepare today's students to work collaboratively in the future. Those trained students could permeate all areas of business and have a positive effect on the culture there. Through improved CL at the high school level, today's students will be better prepared to enter the work world and contribute in positive ways.

Achievement High School teachers and administrators should continue to work towards a common understanding of CL and the elements that make it successful. It would be helpful to encourage teachers to conduct an action research project as part of their personal PD so they might evaluate the change in their practice and the benefits to their students. This research might help teachers understand the benefit of structured CL in correcting student's off-task behavior and increasing student motivation. Additionally, it would behoove the district to begin to curate a library of best practice videos, resources, and lesson plans, as well as continued support for learning teams, focused on CL. Finally, the administrators and staff should continue to collaborate on a joint understanding of what CL looks like when applied at highly effective levels to create more valid and reliable evaluations.

Conclusion

In Section 4, I acknowledged the project strengths and limitations and reflected on my growth in the areas of scholarship, project development, and leadership. I made recommendations for alternative approaches and discussed the importance of the work. In conclusion, I identified implications, applications, and direction for future research. As students enter the workforce of tomorrow, they must have the strength and knowledge

to work independently. However, they must also be prepared to participate fully and contribute to the success of those around them. CL teaches students to use positive social skills, promotive interaction, positive interdependence, while at the same time remaining individually accountable. Using these skills, students learn the meaning of team and the benefits of working together to accomplish a task at a level higher than they could achieve independently. They learn to listen to others and respond respectfully. They learn that their opinion and skills have value, but at times others' opinions and skills might be more valuable in certain situations.

Through the group processing stage of CL, students learn to reflect and identify their personal strengths and weaknesses as well as those of the group. Making that type of reflection part of the students' regular practice during their high school years will create life-long learners. To nurture the environment where students can grow and learn to be true collaborators, teachers must be prepared to guide them through the process. Research indicated that the most significant in-school influence on student success is the teacher in the classroom (Darling-Hammond, 2017; Hattie, J. 2009). CL is time-consuming and challenging to implement into regular practice. However, when teachers are trained and supported in their practice and can work collaboratively with others, they may be able to overcome many of the challenges. Eventually, the benefits of CL, when implemented at effective or highly effective levels, strongly outweigh the challenges.

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Appendix A: The Project

Cooperative Learning Professional Development	
Purpose	This professional development series was created to enhance the practices and understandings of cooperative learning (CL) among AHS District teachers and administrators. The purpose of this project is to provide AHS staff with information and strategies to identify, design, and implement CL strategies and to provide time and a cooperative environment in which they can design lessons that they can implement in their own classrooms.
Target Audience	The target audience for this project is AHS District teachers in grades 7-12 and administrators.
Goals and Objectives	Objective: Participants will establish a district-wide understanding of Johnson and Johnson's (2009) social interdependence framework and develop additional and ongoing supports for enhanced implementation of CL. Goals: Participants will experience CL in safe, structured, positive environment. Participants will improve their understanding of, and effectiveness with, the elements of Johnson and Johnson's (2009) social interdependence theory. Participants will work together to establish guidelines, create materials and resources, and develop a common language to make the implementation of CL easier, more universal, and more frequently implemented at higher levels throughout the district.
Evaluation	Participants will complete formative and summative assessments. Formative assessments will be ongoing throughout the sessions and include a pre-assessment, presenter observation, group report-outs, and exit tickets for self-assessment. A summative evaluation will be completed at the end of the third day.
Resources/Materials	PowerPoint Presentation Projector Laptop Internet connection Copies of PowerPoint for participants Links to articles, websites, and videos for activities Cohen and Lotan (2014) *Designing Groupwork* Poster Paper 7 - 50 Piece Jigsaw Puzzles with pieces from each puzzled divided into four baggies. Markers Sharpies (Multiple colors) Index Cards Chart Paper Pens and pencils Pre-assessment Survey Link Post-assessment Survey Link Jigsaw Criteria

Professional Development: 3-Day Agenda

Day 1

Time	Activity
7:30am – 7:45	Sign-in, Turn-on Computers and Connect to Wi-Fi
7:45 – 8:10	Welcome, Housekeeping, Norms, and Introductions
8:10 – 8:20	Administration of Pre-Assessment Survey
8:20 – 8:40	Overview of Workshop Goals and Objectives, Questions and Clarifications
8:40 – 9:00	Warm-Up Activity
9:00 – 9:15	Cooperative learning in action (video and discussion)
9:15 – 9:20	What is Cooperative Learning? video
9:20 – 9:35	Break.
9:35 – 10:30	Jigsaw Part I – Teams will break into expert groups to research CL using provided resources
10:30 – 11:30	Jigsaw Part II Participants will return to grade level/department teams to create poster of what CL might look like in their grade or content area.
11:30 –11:45	Break.
11:45 – 12:15	Gallery Walk of posters
12:15 – 12:45	Group Processing
12:45 – 1:00	Discussion of learning teams
1:00 – 1:30	Debrief, Day One Survey, and Exit Ticket

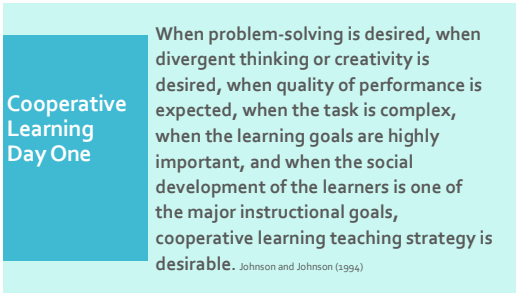
Day 2

Time	Activity
7:30 – 7:40	Sign-in
7:40 – 8: 15	Welcome, Days Goals, and Warm-Up Activity (Puzzle Pieces)
8:15 – 8:35	Think-pair-share
8:35 – 9:35	Affinity Mapping to create a common definition of CL
9:35 – 9:50	Break
9:50-10:40	CL in action videos and presentations
10:40-11:15	Participants design a Cooperative Learning Activity Based on a NJ Student Learning Standard
11:15-11:30	Break
11:30-12:30	Participants implement CL activities with other teams
12:30 – 1:15	It's up to you: Teachers reflect on their practice. Administrators reflect on the CL definitions established earlier in the day.
1:15 -1:30	Debrief, Day Two Survey, and Exit Ticket

Day 3

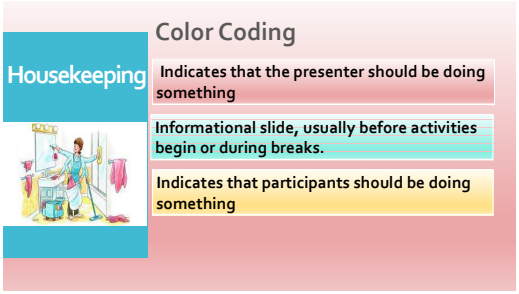
7:30am – 7:40	Sign-in
7:40 – 7:55	Welcome, Days Goals, and Warm-Up Activity
7:55 – 8:15	Silent Discussion
8:15 – 8:35	Second Look at Cooperative Learning in Action

8:35 – 9:15	Teachers Work to enhance CL in existing units/ Administrators Work on Observation Document
9:15 – 9:30	Break
9:30 – 11:10	Teachers Work to enhance CL in existing units/ Administrators Work on Observation Document
11:10 – 11:25	Break
11:25 – 11:45	Small Group 2-minute Summaries of Progress
11:45 – 12:15	Teachers and Administrators Make Additional Edits
12:15 – 1:00	Colleague Circle Demonstration and Formation learning teams
1:00 – 1:30	Reflection, Post-Assessment Survey, and Wrap-Up



Note to presenter:

- This slide should be on the Smartboard as participants arrive. Have fun music playing while participants arrive.
- Welcome participants to the professional development (PD).
- Inform participants that the purpose of this PD series to enhance the practices and understandings of cooperative learning among AHS District teachers and administrators.
- Encourage participants to turn on personal computers and connect to district Wi-Fi or to have a seat at one of the district computers located around the room and sign in.

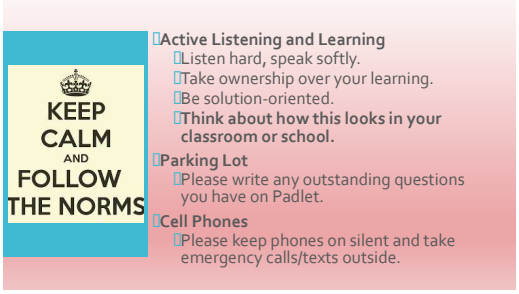


Note to presenter:

- Point out color-coding to help participants stay on task.

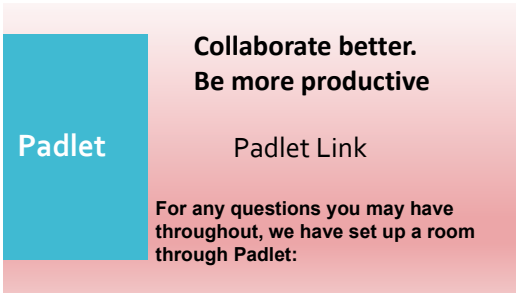
Note to presenter:

- Ask participants to sign-in as they arrive.
- Discuss the logistics for the day and hand out copies of Power Point presentation for notetaking purposes.
- Prior to presentation, create an email group with all participants' addresses so that surveys can be sent out throughout the 3-days.
- Point out that all resources used today are available in a shared Google Folder labeled CL Presenter's Folder.
- Encourage participants to add any resources they locate during the PD to the folder labeled CL Participants' Folder. This will set the sense of collaboration and cooperation from the start. Verify that all participants have access to the folders. If necessary, edit the email group to reflect participants present. Check for any questions of clarifications needed.
-



Note to presenter:

- Quickly review norms. Point out that logistics and norms should be established during classroom CL activities.
- Make sure student know where to get materials and other expectations. This helps eliminate some off–task student behavior.
- Again, check for any questions or clarifications needed.

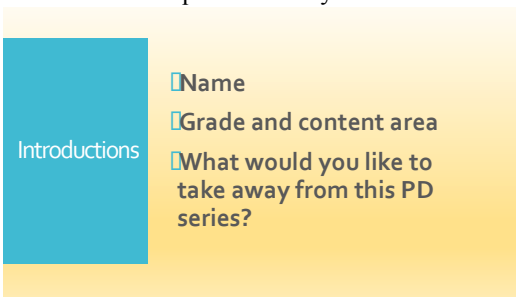


Note to presenter:

- Share the link to the Padlet and encourage participants to post ideas or questions up there. When possible, keep Padlet open on the Smartboard so questions and thoughts are visible. This is a good classroom practice. Allowing students to post their questions publicly may allow other students to address an issue rather than the teacher. It also allows students to move on until teacher can get to them.

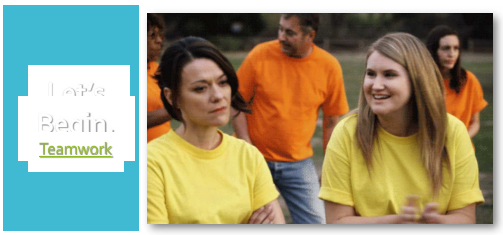
Note to presenter:

- Visual quick and easy self-assessment or formative assessment tool. Students love to be blue!



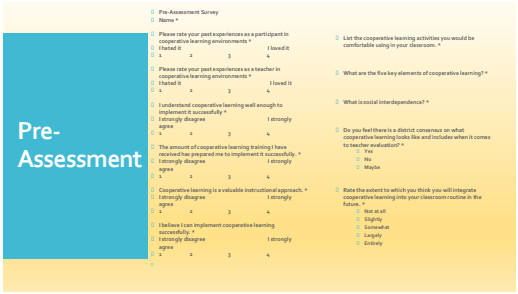
Note to presenter:

- Ask each participant to introduce himself or herself by responding to the three bullets on the Smartboad.
- With three minutes remaining, play music to indicate that time is almost up.



Notes to presenter:

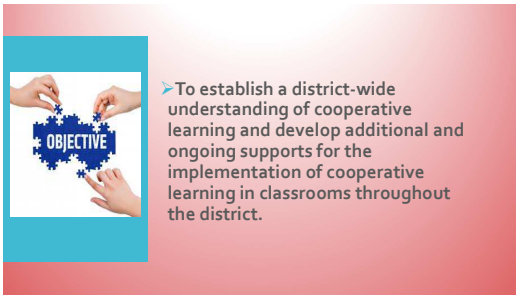
- Click on the Teamwork link https://www.youtube.com/watch?v=yTny2dj51mw



Note to presenter:

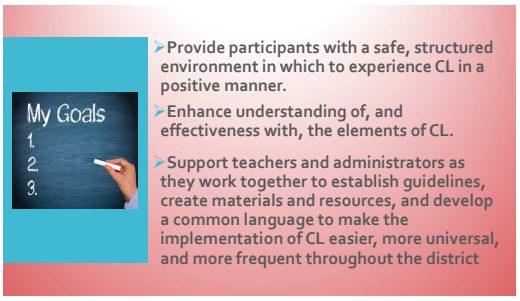
Materials: Printed copies or link to Pre-Assessment Survey

- Using group email addresses created earlier, send Google Pre-Assessment Survey to all participants.
- Please allow 10 minutes for all participants to complete self-assessment and submit.
- Ask participants to answer honestly from their current knowledge and understandings. (There is a printed copy at the end of the project in case of technical issues.)
- With three minutes remaining, play music to indicate that time is almost up.



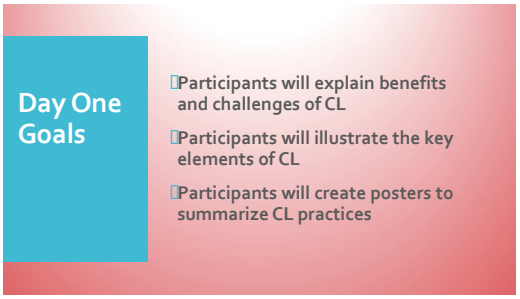
Note to presenter:

- Explain that research shows that CL is harder to implement in a classroom when it is not commonly used throughout the school (Jolliffe & Snaith, 2017). The more teachers that implement the strategy using similar language and activities, the easier and more prevalent the practice is likely to become. Therefore, the objective of this PD series is to establish a district-wide understanding of cooperative learning and develop additional and ongoing supports for the implementation of cooperative learning in classrooms throughout the district.
- **Explain** that most activities throughout the PD series will be conducted in CL format and then processed through discussions to replicate classroom application.



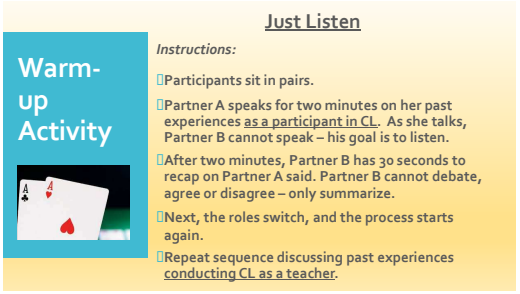
Note to presenter:

- Share that my study showed that most teachers struggled with CL due negative personal experiences as a participant. In addition, time required for planning and implementing the practice, group formation, assessing students fairly, controlling off-task behavior, and maintaining student motivation were frequently cited as deterrents to the implementation of CL. Many of these issues can be mediated with additional teacher training and better experiences. Therefore, these are my goals for this PD series.



Note to presenter:

- Review Day One goals

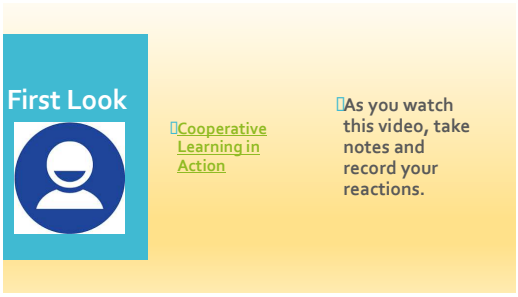


Note to presenter:

Materials: Nothing needed

- **Explain** that most activities throughout the PD series will be conducted in CL format and then processed through discussions to enhance participants' knowledge and experience.
- Participants will partner with someone nearby to briefly discuss their experiences with CL. Presenter should put a timer on the Smartboard.
- Partner A expresses her feelings about past experiences as a participant in CL. Partner B listens without speaking, and then, without rebuttal, recaps what was said.
- **Time**
- 20 minutes.
- After the activity, have participants reflect on the following questions.

- How did speakers feel about their partners' ability to listen with an open mind? Did their partners' body language communicate how they felt about what was being said?
- How did listeners feel about not being able to speak about their own views on the topic? How well were they able to keep an open mind? How well did they listen?
- How well did the listening partners summarize the speakers' opinions? Did they get better as the exercise progressed?
- How can they use the lessons from this exercise at in their classrooms?
- **Explain** that teaching and rehearsing listening skills is critical in CL and a soft skill strongly demanded in the working world. CL enhances students 21st century skills and helps build empathy. This is a great quick activity to enhance communication and empathy. Listening is an incredibly important part of good communication, and it is a skill that people often ignore in team activities. This activity also shows them how to listen with an open mind.
- **Classroom Uses:**
- This activity strengthens listening skills. Group processing at the end helps students evaluate their skills as well as the content addressed in the discussions. (MindTools, 2018)



Notes to presenter:
Materials: Note cards and Cornell Note paper (point out that Cornell Notes allow for revisiting earlier recordings.)
Instruct participants to record what they see and their reactions to the video.

- Stop video at minute 3:25.
- Follow the video with a brief Turn and Talk discussion allowing participants to voice their observations and concerns about what they saw. This serves as a formative assessment of student/participant understanding.
- Presenter should refrain from voicing judgements and, if necessary, direct participants to do the same. They should express their opinion, but not challenge their partner's. This begins to establish a safe, comfortable environment where participants can express opinions and ask questions without judgement.
- Allow 15 minutes. With three minutes remaining, play music to indicate that time is almost up (Brumley, 2012). https://www.youtube.com/watch?v=xg-fGMR3N_E first 3:25 minutes.

Note to presenter:
Materials: None needed

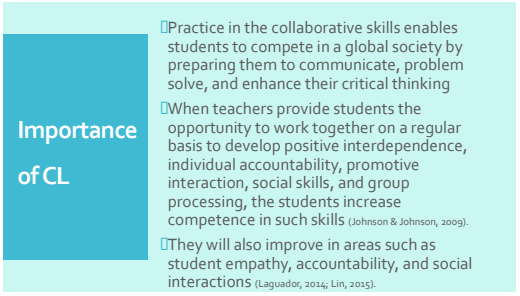
- This is an introductory over view to CL and provides a look at the struggles and benefits of CL. (Rosenau, 2013).
- Ask for comments, questions, or clarifications.
- https://www.youtube.com/watch?v=7E24c5RkrMw

Note to the Presenter:

- Explain that not all parts of CL are necessary at all times. However, to create a CL environment, students should be trained in the full process. Even brief activities like Turn and Talk and Think-Pair-Share are more successful if the ground work has been laid for social interdependence which includes all 5 elements of CL. (Johnson and Johnson, 2009)

Note to presenter:

- Encourage participants to take a 15-minute break and to come back on time.
- Tell them that you will play music at the 12-minute mark to signal the end of the break.



Note to the presenter:

- Post on the board as participants return. This is findings reported in this study

- Note to presenter: http://oaji.net/articles/2015/1201-1434353919.pdf
- https://www.dailyteachingtools.com/cooperative-learning-tasks.html
- https://www.youtube.com/watch?v=IBBZPPe77IY
- https://www.youtube.com/watch?v=wzLNTvGt9z4
- https://www.youtube.com/watch?v=F51jBT-4EMQ
- https://www.youtube.com/watch?v=8_a4rviGCQo
- https://www.dailyteachingtools.com/cooperative-learning.html
- https://www.dailyteachingtools.com/cooperative-learning-grouping.html
- https://www.teachingchannel.org/videos/collaboration-vs-cooperative-learning-nea
- https://www.youtube.com/watch?v=tLzsPBkRUIw
- https://www.youtube.com/watch?v=cnkKHL_dyGE
- https://www.dailyteachingtools.com/cooperative-learning-problems.html#2

Materials: Individual computers and internet access, printed list of links and electronic version, printed versions of Jigsaw Activity Requirements, poster paper, note cards or Cornell Notes, and markers
This will be a jigsaw activity. Teams will break into expert groups and then return to team with information uncovered in expert groups. Play Jigsaw Instructions video to clarify the strategy. (See Appendix A)

- Depending on participants registered, prearrange them into teams of four by either department or grade level.
- Have team members move to a table and familiarize themselves with outcome criteria for poster and roles they will play upon return to team after participation in expert groups. Hand out *Criteria for CL Poster*. Review rubric criteria and expectations.
- Have them decide on a team name.
- Have team members determine which expert group they will join based on their preferred areas of interest and learning styles. (Providing student choice is likely to prevent off-task behavior and enhance engagement and individual accountability.)
- Individuals will independently access information from expert group links in Power Point, read/view information, and take notes. (Individual accountability)
- They will then meet up in expert groups to discuss the key ideas assuring that everyone understands the material and can relate it to their team members. (Positive interdependence)
- For individual accountability purposes, each member of the expert groups should have completed their personal set of notes during their independent reading and a second set or expanded set of notes during the expert group discussion. (Cornell notes work perfectly in this situation as it allows the students to comment in the margin near where they originally notated an idea. If students use Google Docs, they should each choose a color to allow individual contributions to be tracked for assessment purposes if that is a concern.)
- Allow 55 minutes. With three minutes remaining, play music to indicate that time is almost up, or choose to put a timer on the board so group members can gauge time.

Note to presenter:

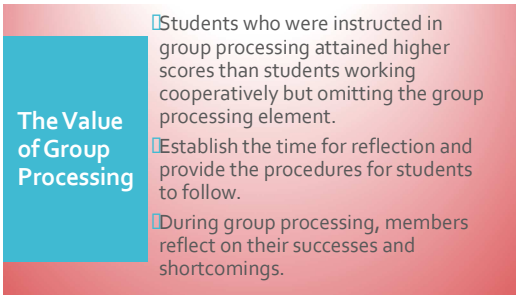
- Once expert groups have analyzed and discussed the information, original teams will reassemble.
- Supply poster paper and markers at each table and refer participants back to Jigsaw Activity Requirements handout.
- In original teams, each member will choose a role to play in the production of the final product. Early in the year, roles and responsibilities must be clearly explained. Often creating charts with the descriptions will serve to remind student. (See Roles and Responsibilities on Jigsaw Activity Requirements handout)
- CL Poster should include grade or content area appropriate: definition of CL, 5 key elements of CL, benefits and challenges of CL, grouping strategies, assessment strategies, and one anticipated challenge to implementation. (See Criteria for CL Poster on Jigsaw Activity Requirements handout) Rubrics help students understand expectations.
- Allow 60 minutes. With three minutes remaining, play music to indicate that time is almost up, or choose to put a timer on the board so group members can gauge time.

Note to presenter:

- Encourage participants to take a 15-minute break and to come back on time.
- Play music at the 12-minute mark to signal the end of the break.

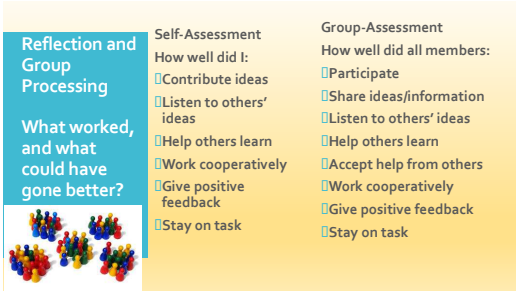
Note to presenter:

- Teams will display their completed poster. All members except the presenter will move one table to the right to view the poster there.
- The presenters will explain the team's ideas and answer any questions.
- Team members will use Post-it notes to leave comments on other's posters highlighting good ideas or making suggestions for clarifications or additional information to be included.
- Teams will remain at each table for 5 minutes and then rotate to the next table to the right and repeat the process until teams return to their original table. Allow a total of 30 minutes.



Note to trainer:

- Explain that in a minute, participants will be taking part in self-assessment and group processing.
- Report that this study showed group processing to be a missing element in most classrooms. Yet its value cannot be over emphasized. Johnson and Johnson (2009) reported that students working in cooperation who were instructed in group processing attained higher scores on "daily achievement, post instructional achievement, and retention measures" (p. 369) than students working cooperatively but omitting the group processing element. Teachers must establish the time for reflection and provide the procedures for students to follow. Whole class processing allows for additional thought and even deeper understanding (Tran, 2013).
- During group processing, members reflect on their successes and shortcomings. This practice allows for additional feedback and reinforcement of positive behaviors.

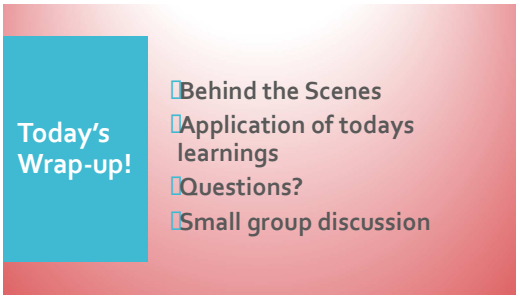


Note to presenter:

Materials: Note card and pen or marker

- Having explained on the last slide that group processing is the vital part of CL that is often missing. Instruct participants that it is not only important that students reflect on content learning, but they must also reflect on what did and did not work during the processing of information and the creation of the final product. This is what builds cooperation and communication skills.
- Ask them to reflect assess themselves on the questions in the first column. Suggest that they rate themselves on a scale of 1-4 with 1 being poor and 4 being great.
- Next participants should rate the overall group on the same scale.

- After completing self and group assessment, encourage participants to discuss how the group functioned.
- Presenters should give feedback and then ask groups to report out alternative ways of handling issues that arose during their interactions.
- Once they have done this, ask: Were there some team members you would rate differently? How would that feel to make that public? How can teachers get students to feel responsible to their team? What are the benefits and challenges of peer evaluations?
- Discuss the use of Rubrics. Allow 30 minutes.

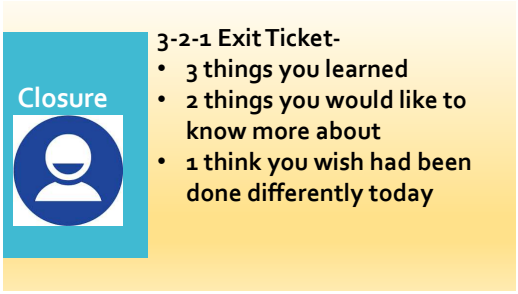


Note to presenter:

- Presenter should explain the behind the scenes preparation that went into this activity IE: pre-determined groups based on ability or interest, resource gathering, arrangement of furniture and supplies, creating directions with clear expectations, division of roles and responsibilities, continued monitoring during the process, and looking for opportunities to point to promotive interaction, positive interdependence, and improving social skills.
- Presenters should also mention that students need to be trained in these processes from the beginning of the year.
- Ask participants what they can apply immediately to their classroom from today's experience. Discuss how this activity could be modified and implemented in participants' classroom.
- Ask administrators what they would be looking for in this type of activity.
- Open the floor to questions, encourage participants to take part in small group discussions around topics or grade level and content area concerns they bring up during question segment. Allow 30 minutes

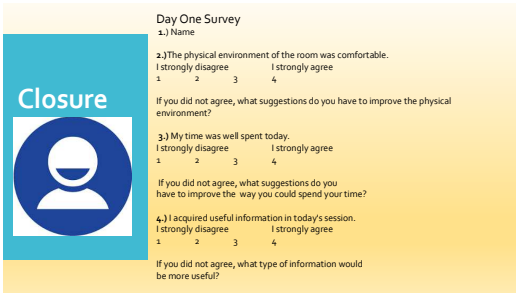
Note to presenter:

- Present the idea of ongoing support through monthly learning team meetings. A document will be shared to help establish areas of interest, meeting dates, and locations. Final learning teams will be established at the end of Day Three.



Note to presenter:

- As a closure for the day, have participants complete a 3-2-1 Exit Ticket. Exit tickets can also be created collaboratively to assess group needs. They can also be more specific and used for an assessment.

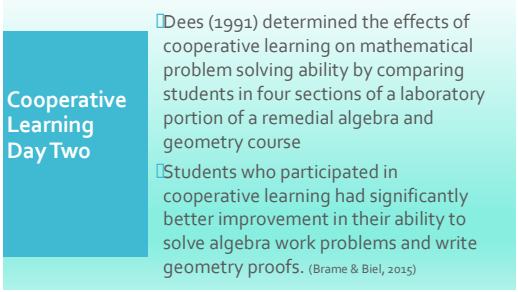


Note to presenter:

- Ask participants to complete brief Day-One Survey to assess participants' reactions and learnings (Guskey's, 2000).

Note to presenter:

- Thank attendees for their attention.
- Remind them that we will be back at it again tomorrow at 7:30.



Note to presenter:

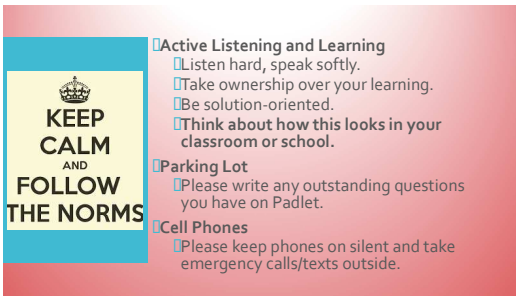
- This slide should be on the Smartboard as participants arrive.
- Welcome participants to day two of the professional development (PD) series.
- Remind participants that the purpose of this PD series to enhance the practices and understandings of cooperative learning among AHS District teachers and administrators.
- Direct participants to have a seat at one of tables in the middle of the room with their team from yesterday.

Note to presenter:

- Welcome participants to day two of the professional development (PD) series.
- Quickly review logistics.
- Remind participants that the purpose of this PD series to enhance the practices and understandings of cooperative learning among AHS District teachers and administrators.
- Direct participants to have a seat at one of tables in the middle of the room with their team from yesterday.

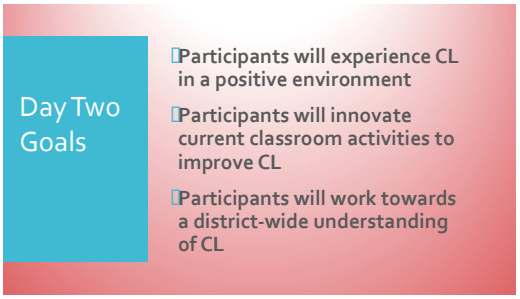
Note to presenter:

- Remind participants about the link to the Padlet and encourage participants to post ideas or questions there. When possible, keep Padlet open on the Smartboard so questions and thoughts are visible.



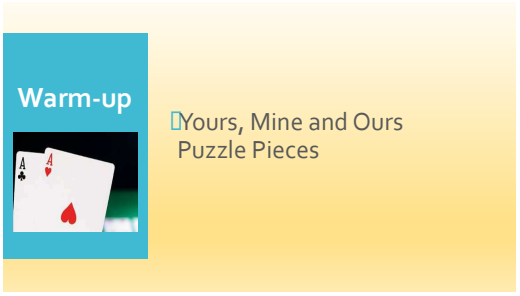
Note to presenter:

- Review norms.
- A gain, check for any questions of clarifications needed.



Note to presenter:

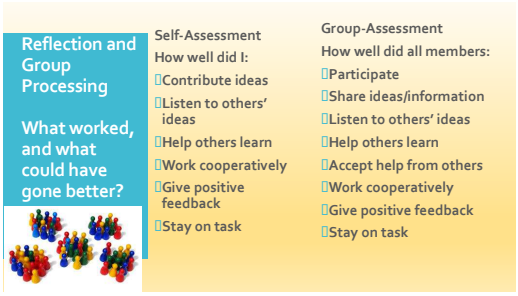
- Review day two goals.
- Have participants turn and talk to a shoulder partner about what their personal goals are for the day.
- Have participants share their goals and assure them that if they are not meet today, if possible, the PD will be adjusted to meet their goals. Allow 10 minutes. (Employing adult learning theory, by gaining participants input to address their needs will help them see value in the activities and more readily integrate them into their practice.)



Note to presenter:
Materials: Baggies of puzzle pieces

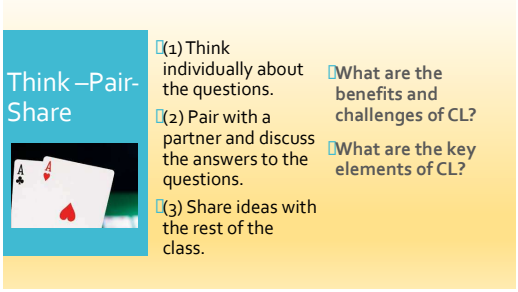
- Team members will each be given a baggie with 12-13 puzzle pieces in it. The team will not be given the image of the 50-piece puzzle. They must work together to complete the puzzle, but they may only touch their own puzzle pieces. Team members may point or make suggestions, but they may not touch the other members' pieces. Allow 20 minutes.

- With three minutes remaining, play music to indicate that time is almost up, or choose to put a timer on the board so group members can gauge time.
- During this activity, the presenters will stress the need for positive interdependence, promotive interaction, individual accountability, and the use of social skills.
- After the 20 minutes is up, have teams complete group processing. Discuss how it felt to know where a piece went but you could not just take it and put it there. How hard was it when you needed to have all the pieces together to succeed, but you could not get the other pieces? How hard was it when you the outcome (puzzle image) was not clear?



Note to presenter:
Materials: Note card and pen or marker

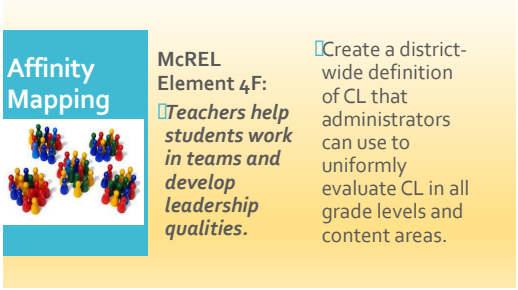
- Remind participants of the importance of group processing. It is not only important that students reflect on content learning, but they must also reflect on what did and did not work during the processing of information and the creation of the final product. This is what builds cooperation and communication skills.
- Suggest again that they rate themselves on a scale of 1-4 with 1 being poor and 4 being great.
- Next participants should rate the overall group on the same scale.
- After completing self and group assessment, encourage participants to discuss how the group functioned.
- Presenters should give feedback and then ask groups to report out alternative ways of handling issues that arose during their interactions. Allow 10 minutes.



Notes to presenter: To determine if yesterday's goals were met, participants will take part in an informal CL activity.
Materials: Note cards and pens in case participants want to write notes.

- Remind participants of the set up for Think-Pair-Share: Explain to the participants that when using a strategy as simple as think-pair-share, they still must train and guide the students in the processes.
- Do not display a timer during this activity, as you may have to adjust the timing depending on participants' conversations.

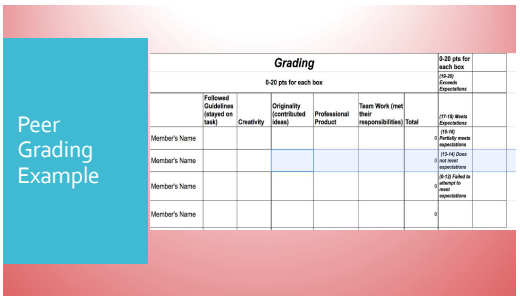
- Think: Teachers begin by asking a specific higher-level question or questions about the topic students will be discussing or are reviewing. Students are then given 1-3 minutes to "think" about what they know and may be encouraged to write brief notes for accountability.
- Pair: Each student is then paired with another student. Teachers may choose to assign pairs or let students pick their own partner. Learners' needs should be considered when creating pairs. Partners discuss ideas and ask questions of each other about their thoughts on the topic (2-5 minutes).
- Share: Once partners have had time to share their thoughts and discuss answers or solutions, a whole-class discussion follows. Mention that the teachers may choose to allow pairs to reconvene to see if their thinking has changed because of the "share" element.
- Ask participants how they have used T-P-S in their classroom. Ask for examples of struggles and successes.



Notes to the presenter:
Materials: Posted Notes, poster paper, and markers

- **Explain** that during the study there was discussion about some inconsistency in evaluations when it came to different administrators' ratings and recording of CL. To make the expectations clear and evaluations consistent, one of the goals of this PD series is to develop a clear definition of what CL looks like at each level of evaluation and in each grade level and content area.
- Discus if a rubric is needed in this situation? If so, would it be focused on the content or the process?
- Do not display timer for this activity, as timing may have to be adjusted according to participants' conversations.
- Place a piece of chart paper on each table. Participants should continue to work in teams developed yesterday.
- Hand 10-15 Posted Notes to each participant.
- Inform participants that they will be working to create a definition of CL that administrators can use to uniformly evaluate CL in all grade levels and content areas.
- Step 1: Participants should write one idea per post-it note. Instruct them to work silently on their own.
- Step 2: In silence, put all post-it notes on the chart paper. (3-5 minutes. Stop when most participants have stopped writing)
- Step 3: Reminding participants to remain silent, have them organize ideas by "natural" categories. Directions might sound like this: "Which ideas go together? As long as you do not talk, feel free to move any Post-it note to any place. Move yours, and those of others, and feel free to do this. Do not be offended if someone moves yours to a place that you think it does not belong, just move it to where you think it does belong — but do this in silence." (5-8 minutes)
- Step 4: Once groups have settled on categories, have them place post-it notes on chart paper in neat columns. At this point, ask them to converse about the categories and come up with a name for each category. (5-8 minutes)

- Step 5: Have each team work together to written definition of CL on poster paper and include examples or specifics that administrators should see. Include levels of effectiveness when possible. (10 minutes)
- Step 6: Have the groups pick a "spokesperson" to report their ideas to the larger group. Have an open discussion using questions such as the following to help participants make connections between each groups' responses and categories: A. What themes emerged? Were there any surprises? B. What dimensions are missing from our "definitions"? Again, any surprises? C. Is there anything you could not live with? (10-15 minutes)
- Share copies of the McREL Evidence document that the district currently uses. Have teams consider what is currently in place and ask if that would make them revise their definition
- Step 7: Have each team revise their definition if necessary. (5 minutes) National School Reform Faculty. (2018)



Note to trainer:

- Explain that this is a suggestion for peer and self-assessing group work. This was created in Google Sheets and is formulated to self-calculate cutting back on the time required. Individual rubrics with a column for students' self-assessment and teacher's assessment can also be formulated to tally scores quickly. This process helps students and teacher see wear their scores differed if they did.

Note to presenter:

- Encourage participants to take a 15-minute break and to come back on time.
- Play music at the 12-minute point to signal that the session will soon resume.

Notes to presenter:
https://www.teachingchannel.org/video/quality-evidence-rubric-student-assessment
https://www.youtube.com/watch?v=RRd120-S9TM
https://www.teachingchannel.org/video/1-3-6-protocol
https://www.teachingchannel.org/video/big-brain-protocol
https://www.teachingchannel.org/video/structured-groups
https://www.teachingchannel.org/video/groups-in-the-classroom
https://www.youtube.com/watch?v=eFUL4yP0vqo
https://www.teachingchannel.org/video/student-engagement-posters
https://www.youtube.com/watch?v=RpnN9pYmZOg

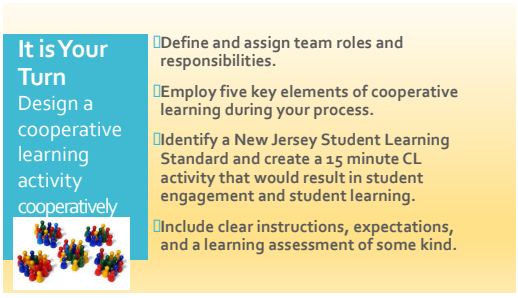
- Ask participants to put themselves in groups of six. Inform them that they will view and analyze videos of various CL learning strategies in small groups and prepare to report out what they learned to whole group.
- Each group will watch approximately 10 minutes of videos and prepare to report out on their findings.

Materials: Printed links and electronic links, otherwise, do not offer any materials but if requested, simply reply, "sure you take whatever you need from here."

- Presenter should not share the timing information unless asked. If asked, be vague.

Time:

- They should use about 15-20 minutes to plan and create their report. Then they will have 4-5 minutes per team to share their findings.
- This activity will include larger groups and will be poorly designed purposely.
- Do not set a timer.
- With 5 minutes left during the planning stage, tell them they have 5 minutes to complete their report. Once planning time is up, tell them they will have 4-5 minutes to present.
- No clear expectations or criteria will be included, and no roles or responsibilities will be assigned.
- Whole group discussion will take place after presentations to compare structured and unstructured CL.
- It should be pointed out that both the product and the process are important when conducting CL.
- Allow a total of 50 minutes



Note to presenter:
Materials: NJSLS CL Activity Requirements, inform participants where all supplies are located and that are welcome to use any of the. Supply link to New Jersey Department of Education Student Learning Standards Webpage (https://www.nj.gov/education/cccs/)

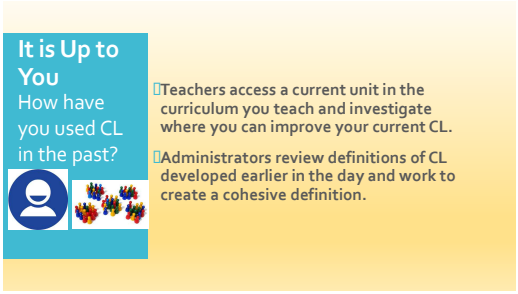
- Create six new diverse teams of four members each.
- Participants will work together to take a New Jersey Student Leaning Standard of their choice and create a 15-minute lesson that incorporates a CL activity that would result in student engagement and student learning.
- The group members will employ CL structure during this process with roles and responsibilities identified. Suggested roles could include, teacher, recorder, materials manager, and timekeeper. Group membership will be designed to create as varied a mix of content area and grade level teachers and administrators as possible to stress the process rather than the content.
- Product should include a turnkey activity with all parts of the 15-minute lesson including suggested materials, instructions, roles and responsibilities, resources, and assessment.
- Presenters will work closely with the groups during this process.
- Presenters will model CL facilitation by circulating during the work period to keep participants on track, intervening or assisting as needed.
- Suggestions for roles and responsibilities if participants need help:
    - **The Teacher – (**Be prepared to present the instructions to the other groups and conduct the activity. You will need to make sure you have all the information and supplies you need to do so in a professional manner.)
    - **The Recorder** – (You will be responsible for taking note and helping to produce any written materials needed for the actual activity.)
    - **The Materials Manager** – (You will be responsible to pick up any supplies need from the supply area and to assure that the Teacher will have everything he/she needs to implement the activity with the other groups.)
    - **The Timekeeper.** (You will be responsible for keeping the team on task and being aware of the time remaining to complete the activity. You should also test to see that the activity your Teacher will be implementing would take approximately 15 minutes. You may want to have suggestions for add-ins or items that can be deleted if the implementation is off schedule.)

Note to presenter:

- Encourage participants to take a 15-minute break and to come back on time.
- Play music at the 12-minute point to signal that the session will soon resume.

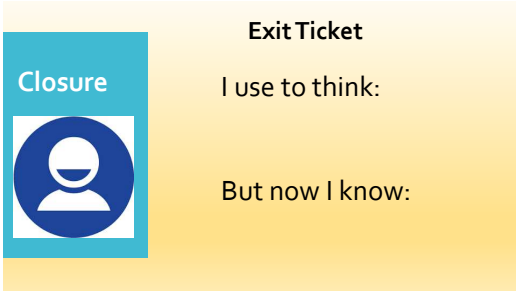
Note to presenter:

- Group 1, 2, & 3 will work together. One group member in each group will act as the teacher and members of the other two groups will act as the students. Groups will rotate through presentations.
- Group 4, 5, & 6 will work together. One group member in each group will act as the teacher and members of the other two groups will act as the students. Groups will rotate through presentations.
- After all activities are completed, there will be a whole group discussion about the experience and then individual groups will reunite to group process the experience.
- Allow 45 minutes for presentations and 15 minutes for individual and whole group processing.
- Ask why it is important to see the recommendation Do not get caught up in the content. This should be an activity that could easily be used in any classroom. How did that affect your ability to work together? Your final product? Why should students know this?



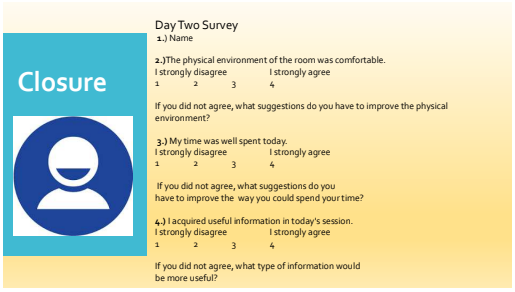
Note to presenter:

- Teachers will work in self-selected groups to examine a CL activity they have implemented in the past. In these groups, they will identify strengths and weaknesses of the implementation and then work together to identify ways to restructure the lesson to achieve a better outcome.
- Allow 45 minutes.
- With three minutes remaining, play music to indicate that time is almost up, or choose to put a timer on the board so group members can gauge time.
- Ask administrators for a copy of a working version of their definition of CL before the leave for the day.



Note to presenter:

- Have teachers complete Exit Ticket.

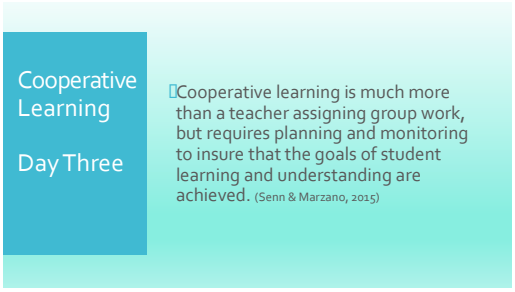


Note to presenter:

- Ask participants to complete brief Day-One Survey to assess participants' reactions and learnings (Guskey's, 2000).

Notes to presenter:

- Thank participants for their participation.
- Remind them that Day Three will start promptly at 7:30 AM tomorrow.

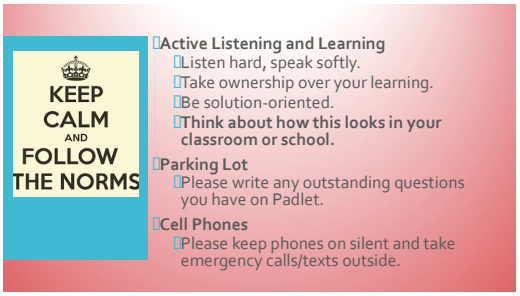


Notes to presenter:

- Have this slide on Smartboard as participants enter.
- Have presenters mingle among participants to receive feedback and check for understandings.
- Have conversations as participants discuss two different experiences they had yesterday with structured and unstructured CL.

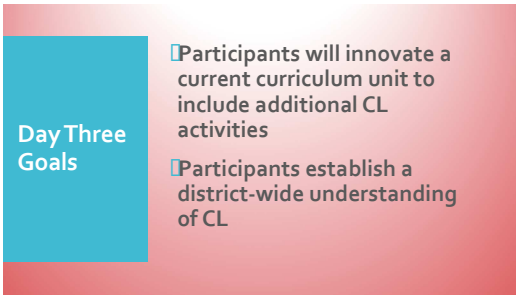
Note to presenter:

- Take a few minutes to have participants sign-in.
- Tell participants that seating is open today.
- Remind them of the logistics for the day. If necessary, edit the email group to reflect participants present.
- Check for any questions of clarifications needed.



Note to presenter:

- Review norms.
- Again, check for any questions of clarifications needed.

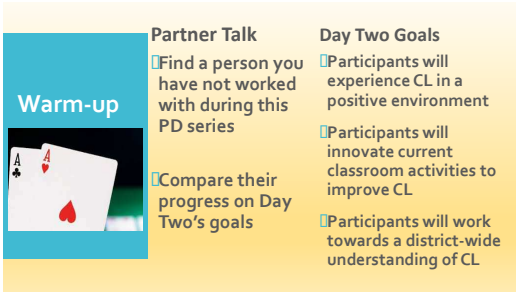


Note to trainer:

- Review goals and inform participants they will have time today to innovate their unit plans.

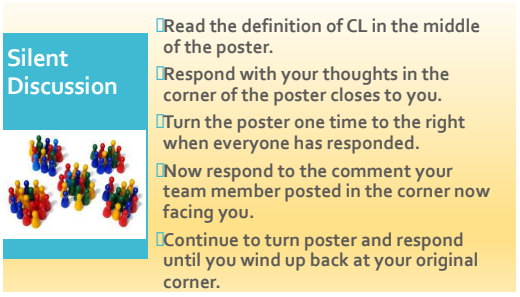
Note to presenter:

- Share the link to the Padlet and encourage participants to post ideas or questions up there. When possible, keep Padlet open on the Smartboard so questions and thoughts are visible.



Note to presenter:
Materials: None needed

- Ask participants to meet with a person they have not worked with and reflect on progress towards Day Two Goals.
- Presenters should circulate and join conversations if invited. (5 minutes)



Note to trainer:

- Prior to the start of the session, make copies of the administrators' definition of CL.
- Place the definition in the middle of a large poster paper for each table.
- Ask participants to sit in groups of four at any table.

Materials: Poster paper with administrators' definition on each table, markers

- Explain: This discussion strategy uses writing and silence as tools to help participants explore a topic in depth. In a Silent Discussion, participants will write out their responses to the definition that administrators created for CL. This will provide teacher input towards the final definition.
- This process slows down students' thinking and gives them an opportunity to focus on the views of others. It also creates a visual record of students' thoughts and questions that you can refer to later in a course. (individual accountability) You can use this strategy both to engage students

who are not as likely to participate in a verbal discussion and to help make sure students who are eager to talk listen carefully to the ideas of their classmates. After they participate in this activity several times, students' comfort, confidence, and skill in using this method increases.

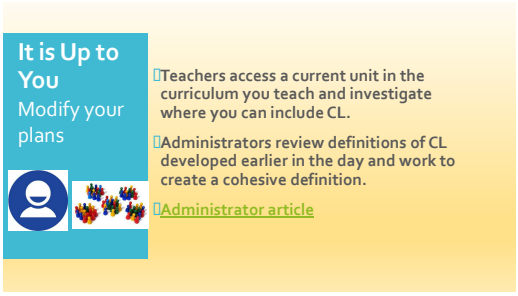
- After Silent Discussion is over, have teachers reflect on the process and discuss how they could utilize the Silent Discussion in their classrooms. (Allow 5 additional minutes for this discussion.)
- Allow a total of 20 minutes) (Facing History and Ourselves, 2018)

Notes to presenter:
https://www.youtube.com/watch?v=xg-fGMR3N_E first 3:25 minutes.

- Instruct participants to record what they see and what their reactions to the video are again. Stop video at minute 3:25.

Materials: Ask participants to take out notes from Day One when they watched this video. Pass out pens and note cards if participants want to take brief notes during discussion.

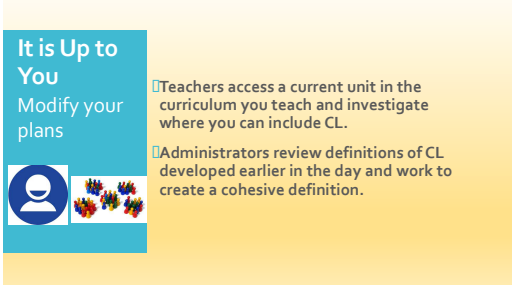
- Ask: Are their new insights into the video? Are there areas in which that the participants could offer constructive criticism?
- Participants will conduct a My Turn, Your Turn, Our Turn discussion. In the first round of this discussion, each member of the group should speak for 30 seconds without being interrupted. In the second round, each member may speak for up to one minute to address issues others in the group mentioned. In round three, each member has up to one minute to summarize their thoughts. Allow an additional 5 minutes for small group discussion. (Brumley, 2012).
- Allow a total of 20 minutes.



Note to presenter:
Materials: None needed

- Either teachers will work independently or collaboratively to begin to assess where they can make changes to an existing unit in their curriculum to implement CL.
- Administrators will read an article, Making Cooperative Learning Powerful (Slavin, 2014b), and then work together to create a cohesive definition of CL.
- Presenters will circulate to offer help or suggestions and answer questions.

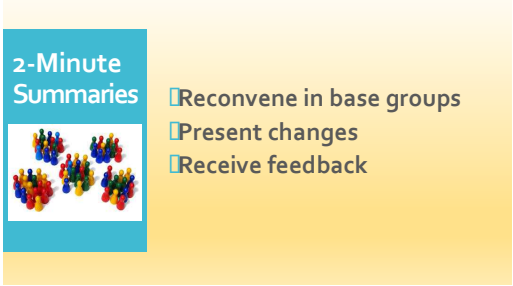
Note to presenter: Encourage participants to take a 15-minute break and to come back on time.



Note to presenter:
Materials: None needed

- Either teachers will work independently or collaboratively to begin to assess where they can make changes to an existing unit in their curriculum to implement CL.
- Administrators will work together to use the established definition of CL to edit Observation Document.
- Presenters will circulate to offer help or suggestions and answer questions.

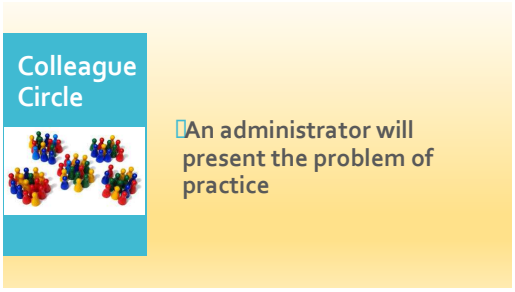
Note to presenter: Encourage participants to take a 15-minute break and to come back on time.



Note to presenter:
Materials: None needed

- Base groups will reconvene to present two-minute summaries of the units they created and receive feedback. Administrators will break up and join a teacher group to report on their progress during this period
- Allow a total of 20 minutes. (If participants have been doing this throughout the editing process, this activity may be skipped allowing for additional application time.)

Note to presenter:
Materials: None needed
Participants will have an additional 30 minutes to refine their work.



Note to presenter:
Materials: Seating arrangement should be set up to allow the administrator presenting the problem (in this case designated as presenter.) and the four members of the Colleague Circle to be in the middle of a larger circle that would consist of the remaining participants and presenters. One presenter will act as facilitator.

- One member of each base team will comprise the "group" that responds to administrator.
- Edited Session Format: (See Appendix)
- This teacher-to-teacher problem of practice session provides a forum for a colleague to share a common challenge that he or she is struggling with and for the group to pose questions, react, and brainstorm and explore the feasibility of solutions. The goal of the session is to provide a forum for the group to work together on a challenge that is central to improving the teaching environment or classroom practice. (**ECET^2**) For our purposes, an administrator will present remaining issues with CL definition or observation tool.
- **5 minutes** **Problem of Practice Presentation**
- Administrator describes problem of practice (inconsistent evaluation of CL) to the group, including all relevant details and context for initial questions from the group.

- **5 minutes** **Clarifying Questions**

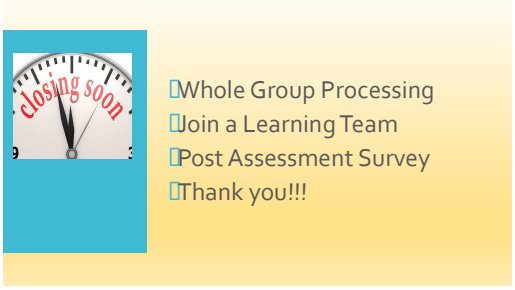
- The group asks clarifying questions of the presenter. Clarifying questions are factual questions with brief responses that help the group understand the problem of practice better. They often begin with "who, what, where, when, or how."

- **6 minutes Probing Questions**
- The group asks probing questions of the presenter. Probing questions are open-ended and worded so that they help the presenter clarify and expand his/her thinking about the problem of practice. Answers to these questions require deeper consideration and longer answers from the presenter.

- **15 minutes Group Discussion**
- Presenter listens while group discusses the problem of practice. This is an opportunity for participants to raise similar situations, concerns, and solutions from others in the networks.

- **7 minutes Reflection and Debrief**
- The presenter reflects on what he/she heard from the group, what resonated, and current thinking on the problem of practice. Group members contribute additional takeaways.
- (ECET2, 2014)
- Presenter will suggest that this could be a format employed during learning team meetings.
- Allow total of 45 minutes

Note to presenter:
Present the idea of ongoing support through monthly meetings of learning teams. A document should be shared to help establish areas of interest, meeting dates and locations. Mention that administration has agreed to make time available for learning teams to meet during scheduled PD days.



Notes to presenter:

- Ask groups to conduct a final group processing for their teams. (5 minutes)
- Have teams report out and then do a whole group processing. (10 minutes). Ask participants to add their names to their choice of learning teams and then complete Post-Assessment Survey.
- Thank everyone for attending. Remind them that the presenters will be available throughout the school year and at learning team meetings. The Presenter and Participants'' Folders will remain shared on the Google Drive.

- Encourage them to add any resources they uncover in their process.

Pre-Assessment Survey

Name

1. Please rate your past experiences as a participant in cooperative learning environments.

I hated it I loved it
1 2 3 4

2. Please rate your past experiences as a teacher in cooperative learning environments.

I hated it I loved it
1 2 3 4

3. I understand cooperative learning well enough to implement it successfully.

I strongly disagree I strongly agree
1 2 3 4

4. The amount of cooperative learning training I have received has prepared me to implement it successfully.

I strongly disagree I strongly agree
1 2 3 4

5. Cooperative learning is a valuable instructional approach.

I strongly disagree I strongly agree
1 2 3 4

6. I believe I can implement cooperative learning successfully.

I strongly disagree I strongly agree
1 2 3 4

7. List the cooperative learning activities you would be comfortable using in your classroom.

8. What are the five key elements of cooperative learning?

9. What is social interdependence?

10. Do you feel there is a district consensus on what cooperative learning looks like and includes when it comes to teacher evaluation?

Yes No Maybe

11. Rate the extent to which you think you will integrate cooperative learning into your classroom routine in the future.

Not at all Slightly Somewhat Largely Entirely

Trainer Instructions for Day One Jigsaw

Participants will be assigned to four-member teams according to grade level or content area. Team members will discuss topic interests and presentation style preferences to identify their choice of one of four expert groups to join. Each member of the team will then access supplied information about research, principles, and definitions of CL for their chosen expert group. They will read independently, or view information supplied and record their findings. Once all members have completed recording their findings, they will join their expert group to discuss and clarify their understandings.

After the morning break, grade level or content area teams will reconvene to create posters that include a grade or content area appropriate definition of CL, 5 key elements of CL, benefits and challenges of CL, grouping strategies, assessment strategies, one anticipated challenge to implementation, and another interesting fact that might make CL different in their grade level of content area. Once posters are completed, participants will hang them in anticipation of a gallery walk. During the gallery walk, one team member will remain with the poster to explain the representations and answer any questions while the remaining members of the team circulate through the other posters to hear those presentations. After the gallery walk is complete, team members will reconvene to discuss their new learnings. At that point, the presenters will encourage group processing by asking the teachers to reflect and discuss how the group functioned. Feedback will be given and there will be time for groups to report out alternative ways of handling issues that arose during their interactions.

Jigsaw Activity Requirements

Criteria for CL Poster

Poster must include grade or content appropriate:

Elements	Trainee	New Hire	Professional	Expert
Definition of CL	Includes a vague definition	Includes a clear, valid definition	Includes a clear, valid, detailed definition	Includes a clear, valid, detailed definition with examples
Key elements of CL	Does not include all elements	Lists the five researched based elements	Defines the five researched based elements	Defines the five researched based elements and makes connections to student activities and/or outcomes
Benefits and challenges of CL	References minimal or irrelevant benefits and challenges	References some minor benefits and or challenges	References key, relevant benefits and or challenges	References major benefits and or challenges and relates them to students' activities and/or outcomes
Grouping strategies	Limited or completely missing strategies	Commonly valid used strategies listed	Varied types of strategies listed	Varied types of strategies listed with applications suggested
Assessment strategies	Limited or completely missing strategies	Commonly used valid strategies listed	Varied types of strategies listed	Varied types of strategies listed with applications suggested
One anticipated challenge to implementation	Limited or completely missing challenges	Commonly anticipated challenges listed	Varied types of challenges listed	Varied types of challenges listed with solutions suggested
Creativity and care*	Minimal creativity and care taken	Either creativity OR care is demonstrated	Both creativity and care are demonstrated	Creativity and care are shown and a professional level

Care includes spelling and grammatical errors and neatness

Roles and Responsibilities:

All team members must contribute to the final product; however, each must be responsible for a specific role and area of responsibility. Please indicate the name of the team member next to each role:

The Facilitator *(Provide leadership and direction. Helps members clarify points and protects them from attack. Assures that everyone is heard from and keeps group discussions on track.)* _____

Time Keeper *(Be aware of time and keep team on task through each step of the project. Encourages all members to speak while at the same time keeping one person from dominating the conversation.)* _____

Illustrator/Summarizer *(Clarifies group's points and illustrates them on poster. Checks for clarity and verifies that all conclusions are represented on poster.)*

_____

Presenter *(Remains with the poster during gallery walk to explain illustrations and answer any questions.* _____

Day One Survey

1.) Name

2.) The physical environment of the room was comfortable.

I strongly disagree			I strongly agree
1	2	3	4

If you did not agree, what suggestions do you have to improve the physical environment?

3.) My time was well spent today.

I strongly disagree			I strongly agree
1	2	3	4

If you did not agree, what suggestions do you have to improve the way you could spend your time?

4.) I acquired useful information in today's session.

I strongly disagree			I strongly agree
1	2	3	4

If you did not agree, what type of information would be more useful?

NJSLS CL Activity Requirements

Participants will work together to take a New Jersey Student Leaning Standard of their choice and create a 15-minute lesson that incorporates a CL activity resulting in student engagement and student learning. The make-up of your group is designed to create as varied a mix of content area and grade level teachers and administrators as possible to stress the process rather than the content. (Do not get caught up in the content. This should be an activity that could easily be used in any classroom.)

The group members will employ CL structure during this process with roles and responsibilities identified. Suggested roles: **The Teacher, The Recorder, The Materials Manager, and The Timekeeper.**

Role	Responsibilities
1	
2	
3	
4	

Product should include a turnkey activity with all parts of the 15-minute lesson including suggested materials, instructions, roles and responsibilities, resources, and assessment.

Elements	*Unsatisfactory*	*Satisfactory*	*Exceptional*
Materials were included			
Instructions were included			
Roles and responsibilities were spelled out			
Resources were provided			
An assessment was included			
Lesson took approximately 15 minutes			
If necessary, adjustments were made			
Team worked well together			

Day Two Survey

1.) Name

2.) The physical environment of the room was comfortable.

I strongly disagree			I strongly agree
1	2	3	4

If you did not agree, what suggestions do you have to improve the physical environment?

3.) My time was well spent today.

I strongly disagree			I strongly agree
1	2	3	4

If you did not agree, what suggestions do you have to improve the way you could spend your time?

4.) I acquired useful information in today's session.

I strongly disagree			I strongly agree
1	2	3	4

If you did not agree, what type of information would be more useful?

ECET^2 Colleague Circles: Problem of Practice
Guidance for Teacher Participants

Session Overview:

This teacher-to-teacher problem of practice session will provide a forum for a colleague to share a common challenge that he or she is struggling with and for the four-member group to pose questions, react, and brainstorm and explore the feasibility of solutions. The goal of the session is to provide a forum for the group to work together on a challenge that is central to improving the teaching environment or classroom practice.

Session Format:

5 minutes **Problem of Practice Presentation**
Presenter describes his/her problem of practice to the group, including all relevant details and context for initial questions from the group.

7 minutes **Clarifying Questions**
The group asks clarifying questions of the presenter. Clarifying questions are factual questions with brief responses that help the group understand the problem of practice better. They often begin with "who, what, where, when, or how."

8 minutes **Probing Questions**
The group asks probing questions of the presenter. Probing questions are open-ended and worded so that they help the presenter clarify and expand his/her thinking about the problem of practice. Answers to these questions require deeper consideration and longer answers from the presenter.

20 minutes **Group Discussion**
Presenter listens while group discusses the problem of practice. This is an opportunity for participants to raise similar situations, concerns, and solutions from their schools and districts.

10 minutes **Reflection and Debrief**
The presenter reflects on what he/she heard from the group, what resonated, and current thinking on the problem of practice. Group members contribute additional takeaways for their own districts contexts.

Post-Assessment Survey

Name

1. Please rate your past experiences as a participant in cooperative learning environments.

I hated it I loved it
1 2 3 4

2. Please rate your past experiences as a teacher in cooperative learning environments.

I hated it I loved it
1 2 3 4

3. I understand cooperative learning well enough to implement it successfully.

I strongly disagree I strongly agree
1 2 3 4

4. The amount of cooperative learning training I have received has prepared me to implement it successfully.

I strongly disagree I strongly agree
1 2 3 4

5. Cooperative learning is a valuable instructional approach.

I strongly disagree I strongly agree
1 2 3 4

6. I believe I can implement cooperative learning successfully.

I strongly disagree I strongly agree
1 2 3 4

7. List the cooperative learning activities you would be comfortable using in your classroom.

8. What are the five key elements of cooperative learning?

9. What is social interdependence?

10. Do you feel there is a district consensus on what cooperative learning looks like and includes when it comes to teacher evaluation?

Yes No Maybe

11. Rate the extent to which you think you will integrate cooperative learning into your classroom routine in the future.

Not at all Slightly Somewhat Largely Entirely

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Appendix B: Semistructured Interview Questions

1. What grade and content do you teach?
2. How long have you been teaching at Achievement High School?
3. Did you teach elsewhere before coming here?
4. How would you define cooperative learning?
5. Do you enjoy cooperative learning as an adult?
6. Why do you include cooperative learning in your classroom? (RQ 1) Prompting, if necessary, will include:
    a. How does it affect students?
    b. How do you feel during the process?
    c. What do you see as the benefits?
    d. What do you see as the drawbacks?
7. For what tasks do you think cooperative learning is the most appropriate? (RQ 1) Prompting, if necessary, will include:
    a. Why?
    b. For which do you believe it is not appropriate?
8. What does cooperative learning look and sound like in your classroom? (RQ 2)
9. What are your goals for cooperative learning activities? (RQ 2)
10. Please describe the lesson and activities that went on during your observations that resulted in your highly effective rating. (RQ 2) Prompting, if necessary, will include:

a. Please tell me about the planning you employed to conduct the observed lesson.

b. How did you assess student learning during observed lessons?

11. How frequently do you conduct lessons that include cooperative learning and student collaboration? (RQ 2)

12. Tell me about planning, implementing, and assessing cooperative learning and student collaboration throughout the year. (RQ 2) Prompting, if necessary, will include:

a. Time prepping and implementing

b. Procedures during implementation

c. Resources and materials employed

d. Types of assessments

13. What are the important elements of cooperative learning? (RQ 2) Prompting, if necessary, will include:

a. Positive interdependence

b. Individual accountability

c. Promotive interaction

d. Social skills

e. Group processing

14. What is the teacher's role in cooperative learning? (RQ 2)

15. What is the most difficult part of cooperative learning? (RQ 3) Prompting, if necessary, will include:

a. What makes it so hard?

b. What workarounds have you found for that problem?

16. What type of training have you had for using cooperative learning? (RQ 3)

17. Do you have support to help you use cooperative learning? (RQ 3) Prompting, if necessary, will include:

    a. If so, what or who?

    b. How hard would it be to do cooperative learning without that support?

18. What do you wish you knew more about before beginning to use cooperative learning? (RQ 3)

19. Do you work cooperatively or collaboratively with anyone else? (RQ 3) Prompting, if necessary, will include:

    a. If so, with whom?

    b. In what ways?

Appendix C: Document Review Checklist

Lesson Plans Document Review	T #1	T #2	T #3	T #4	T #5	T #6	T #7	T #8	T #9	T #10
Course										
Standards/Skills cited										
CL evident in week 6										
Number of days										
CL evident in week 20										
Number of days										
Collaborative evident in week 6										
Number of days										
Collaborative evident in week 20										
Number of days										
Limited reference to only the following CL elements:										
Social Interdependence										
Individual Accountability										
Social Skills										
Promotive Interaction										
Group Processing										
Detailed description of activities including all five elements of CL										
Types of activities										
Teacher designated groups or student choice										
Opportunity for direct discussion (Social Skills, Promotive Interaction)										
Resources:										
Clear instructions for expectations										

Clear Instructions for roles and responsibilities										
Group processing forms (Group Processing)										
Additional Resources										
Assessments:										
Individual accountability										
Group accountability (Social Interdependence)										
Rubric for self-reflection										
Additional assessments										