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# UNDERSTANDING THE USE OF INSTRUCTIONAL COACHING TO SUPPORT COOPERATIVE LEARNING IN THE SECONDARY CLASSROOM

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UNDERSTANDING THE USE OF INSTRUCTIONAL COACHING TO  
SUPPORT COOPERATIVE LEARNING IN THE SECONDARY CLASSROOM

by

Adam J. Roubitchek

Dissertation

Submitted to the Faculty of

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in Partial Fulfillment of the Requirements for

the Degree of

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in

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May 2018

UNDERSTANDING THE USE OF INSTRUCTIONAL COACHING TO  
SUPPORT COOPERATIVE LEARNING IN THE  
SECONDARY CLASSROOM

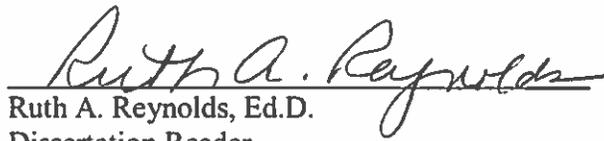
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## DEDICATION

To Jessica and Eliana, the special ladies in my life that make every new day better than the last.

## ABSTRACT

The current study addressed the use of instructional coaches in a suburban high school district. Teacher perceptions of both the qualities of instructional coaches and the use of cooperative learning in the classroom were measured. Cooperative learning is a research-based instructional strategy that has a long history of increasing student achievement. The studied district used the Johnson and Johnson cooperative learning model, and adopted an instructional coaching model based on the work of Knight. In the investigated district, most teachers had been trained in the basic use of cooperative learning and all teachers received support from an instructional coach. The researcher administered a demographic questionnaire, the Classroom Life Instrument – Teacher Perception Survey, and the Instructional Coaching – Teacher Perception Survey to selected teachers in the district. The results indicated that instructional coaches demonstrated a strong adherence to the Knight model. In addition, correlations were found between various measures of cooperative learning and the instructional coaching partnership principles of equality, choice, dialogue, praxis, and reciprocity. The Knight model was shown to be successfully implemented in this district. It is recommended that instructional coaches maintain a presence in the classroom and that teachers should maintain choice over what they are being coached on. Further study is needed to determine what qualities of an instructional coach would make the relationship with a teacher a successful one, and to determine if instructional coaching is a viable support for other research-based instructional strategies.

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## CHAPTER I

### INTRODUCTION

Teaching is a profession unlike others. Teachers undergo rigorous education, internships, credentialing, and continuing education. Over 50% of teachers have earned post-graduate degrees (Keigher, 2010). Yet for all of this interaction with learned professionals, the majority of a teacher's day is not spent with other professionals discussing the craft of teaching. Rather, most of a teacher's day and most of a teacher's career are spent with students.

Instructional coaching is meant to connect the classroom teacher with a learned colleague. Coach and teacher work together to improve instruction for students. "A good coach has high expectations and provides the affirmative *and* honest feedback that helps people to realize those expectations" (Knight, 2007, p. 15). Instructional coaches work directly with teachers on strategies that directly impact day-to-day classroom instruction.

One of those strategies is the implementation of cooperative learning. Cooperative learning is a research-based instructional strategy that has students work together in a way to improve academic achievement and social skills (Johnson & Johnson, 2003). When instructional coaches are called to support the implementation of a research-based instructional strategy, such as cooperative learning, they must have the knowledge and skill necessary to help the teacher be successful.

Gawande (2008) wrote, “So find something new to try, something to change. Count how often you succeed and how often you fail. Write about it. Ask people what they think. See if you can keep the conversation going” (p. 257). Instructional coaches need to understand how to keep the conversation going. Knowing the strategies and methods to connect with teachers, as well as improve their instruction, will make the coaching experience successful.

The current study may be of interest to instructional coaches seeking to support research-based instructional strategies in their schools. Understanding the way in which cooperative learning is being used in the classroom, and the way that instructional coaching is supporting cooperative learning usage may assist coaches in supporting teachers.

#### Statement of the Problem

A Midwestern suburban high school district is committed to training every teacher in the use of cooperative learning. The same high school district has 15 instructional coaches in three buildings dedicated to working with teachers. This district is spending a large sum of money on supporting teacher implementation of research-based instructional strategies, but it has no mechanism to determine how the coaches and strategies are being implemented.

The Every Student Succeeds Act (“Civic Impulse,” 2016) compelled educators to “use methods and instructional strategies that strengthen the academic program in the school” (p. S.1177-63). The Midwestern high school district administration believes that it is adhering to this legal requirement through the support of many research-based instructional strategies, including cooperative learning (Johnson & Johnson, 2003).

Despite this support, it is unclear how effective the implementation of cooperative learning has been. In fact, the implementation of research-based instructional strategies has been demonstrated to be inconsistent in various contexts (Borrego, Cutler, Prince, Henderson & Froyd, 2013; Ormel, Pareja Roblin, McKenney, Voogt & Pieters, 2012; Wieman, Deslauriers & Gilley, 2013).

Instructional coaching has been proposed by the Midwestern school district administration as a method to increase the implementation of research-based instructional strategies within the classroom. “The primary goal of instructional coaching is to enable teachers to implement scientifically proven instructional practices that respond directly to teachers’ burning issues” (Knight, 2007, p. 17). Teachers are meant to work closely with instructional coaches to implement and refine their use of research-based instructional strategies.

The purpose of the current study was to understand how Knight’s (2007) seven partnership principles of instructional coaching are present in the instructional coach/teacher relationship, specifically regarding cooperative learning coaching, in order to understand the relationship between instructional coaches and teachers. The quantitative data were collected by asking teachers their perceptions of both their cooperative learning usage in the classroom and by their perceptions of the teacher-instructional coach relationship. When these interactions are better understood, instructional coaches can refine their practice to better meet the needs of the teachers.

### Background

In a foundational study, Showers (1982) found that pairing teacher training with observation and feedback increased teachers’ understanding and use of strategies in

which they had been previously trained. The author described the strategy of pairing training, observation, and feedback for the first time. Showers referred to this pairing as coaching. Subsequently, the coaching described has been called many names and used in a variety of ways.

Coaching, or instructional coaching, as it has come to be known, had been linked to improving the implementation of various research-based instructional strategies. Instructional coaching was demonstrated to improve the implementation of behavior support in the classroom (de Jager, Reezigt, & Creemers, 2002; Filcheck, McNeil, Greco, & Bernard, 2004). In both of these studies, the researchers determined that classroom teachers who were trained in particular behavioral intervention methods exhibited more implementation of those methods when coaching was used as compared to similarly trained teachers who did not utilize coaching.

In addition to behavioral support, instructional coaching positively supported reading and literacy initiatives. Morgan, Menlove, Salzberg, and Hudson (1994) concluded that classroom teachers' use of instructional coaching improved their direct instruction of reading and spelling skills for special education students. In the presence of a teacher who received coaching, student assessment scores increased. Instructional coaches were thought to be a strong factor in the students' learning.

Instructional coaching was deemed to be successful when teachers could determine the instructional focus of their coaching sessions. Kohler, Crilley, Shearer, and Good (1997) investigated the benefits of having teachers drive the discussion with their coach. The authors identified that “. . . teachers' collegial exchanges are presumed to serve as the impetus or independent variable for change in the classroom” (p. 248).

Directly working with a coach on a practice that was deemed valuable by a teacher was found to change that teacher's instructional habits.

Shidler (2009) investigated the relationship between time that a teacher spent with an instructional coach and the degree to which preschool students increased achievement on certain literacy tasks. The researcher identified a strong correlation between coaching on a specific subject matter and an increase in student achievement. Shidler observed that coaches should “. . . model techniques and instructional practices, observe teacher practices, and dedicate consultative hours to working with teachers when children are not present” (p. 459) to be successful.

Kretlow, Cooke, and Wood (2012) explained that the coaching of teachers provided support that allowed for growth beyond the initial training of research-based instructional methods. Teachers' willingness to engage in novel instructional strategies increased. Furthermore, teachers reported high levels of satisfaction in the model which paired traditional professional development with instructional coaching. Kretlow et al. demonstrated that instructional coaching was beneficial to the implementation of research-based instructional strategies in the classroom.

One such research-based instructional strategy is cooperative learning. In a foundational study (Johnson, Johnson, & Bryant, 1973), the researchers confirmed that cooperative learning decreased anxiety among students when compared to competitive contexts within the classroom. When cooperative groups were highly structured, students exhibited more willingness to interact with other students and engage in problem solving behaviors. This early research regarding cooperation in the classroom dealt, primarily, with student behavior.

Johnson and Johnson (2003) clarified cooperative learning to include five essential elements: positive interdependence, individual accountability, group processing, cooperative skills, and face-to-face interaction. By designing lessons that access these five essential elements of cooperative learning, Johnson and Johnson asserted that the benefits to students would extend beyond improved behaviors. Johnson, Johnson, Holubec, and Roy (1984) stated:

[Cooperative learning] is more than simply a better way to work with students in a classroom. Whether students work together or alone in schools is more serious than that. We cannot afford to graduate large numbers of students with little or no ability to interact effectively with others. (p. 11)

In these early works, the authors found that cooperative learning improved student learning and student behavior.

Previous researchers, i.e., Altun (2015) and Hsiung (2012) concluded that upon implementing the essential elements of cooperative learning in the classroom, student learning increases. Students who work together in the classroom according to the essential elements of cooperative learning achieved higher scores on classroom assessments. These gains in learning were described in the short-term and long-term when the students were retested on similar material.

Tsay and Brady (2010) demonstrated that the use of cooperative learning influenced student perceptions about learning, as well. The authors demonstrated that students who care about grades and learning are active participants in cooperative groups. The converse was also confirmed to be true. The students' willingness to participate in a

cooperative group was an indicator of both increased grades and increased performance on assessments.

Cooperative learning had a positive effect when structured using technology. Wang, Yu, and Wu (2013) demonstrated that the use of cooperative learning in an online course increased student collaboration. A course that used a cooperative structure was compared to a course with no cooperative structure. The students in the course with the cooperative structure worked together more productively. The authors also found that students preferred working with others and had more positive feelings about an online course when cooperative learning was utilized.

Cooperative learning is a research-based instructional strategy that has been implemented in classrooms of all levels and in many contexts. The evidence supports that there are many positive impacts to having students work together cooperatively. There is minimal evidence, however, to confirm that instructional coaching supports the use of cooperative learning.

### Research Questions

To understand teachers' use of instructional coaching to support cooperative learning in the secondary classroom fully, three research questions were investigated in the current study:

1. To what degree are the seven partnership principles of instructional coaching present in the coaching relationship?
2. What relationship exists between the reported use of the partnership principles of instructional coaching and cooperative learning in the classroom?

3. How does a teacher's use of cooperative learning differ as a factor of instructional coaching use?

#### Description of Terms

*Choice.* Choice is a principle of instructional coaching. When working with an instructional coach, the topics discussed are determined by the teacher being coached (Knight, 2007).

*Class cohesion.* Class cohesion is the belief that students in a class are friends with each other (Johnson & Johnson, 2002).

*Cooperative learning.* Cooperative learning is an instructional methodology in which small groups work together towards a common goal. In a cooperative learning group, lessons are designed so that students must work together to accomplish a task, the students are accountable for their own learning as well as the learning of their group mates, and social skills as well as academic skills are assessed (Johnson & Johnson, 2003).

*Dialogue.* Instructional coaches and teachers engage in authentic dialogue in the process of coaching. “Partners engage in conversation that encourages others to speak their minds, and they try their best to listen authentically and to fully understand what others say” (Knight, 2007, p. 25).

*Equality.* “Partnership involves relationships between equals. Thus, in a partnership each person’s thoughts and beliefs are held to be valuable” (Knight, 2007, p. 24).

*Individualistic learning.* Individualistic learning is the preference by students for educational experiences that do not involve working with other students (Johnson & Johnson, 2002).

*Instructional coach.* An instructional coach works directly with teachers to support learning in the classroom (Knight, 2007). In the district studied, an instructional coach teaches half of a standard teaching load. The other half of the instructional coach's day is spent engaging in the process of coaching, delivering professional development activities for teachers, or working on various other projects that will directly impact classroom instruction.

*Instructional coaching.* Instructional coaching is a system in which coaches work within schools to help teachers realize their instructional goals. Instructional coaching provides support for teachers to implement research-based strategies. Instructional coaches work according to seven partnership principles: equality, choice, voice, dialogue, reflection, praxis, and reciprocity (Knight, 2007). The instructional coaches included in the current study taught three class periods per day (one-half of a full teaching load). During the rest of the day, the instructional coaches worked with teachers on a variety of projects, including support for cooperative learning classroom implementation. For the purposes of the current study, instructional coaches were differentiated from teachers by being the provider of coaching.

*Positive goal interdependence.* Positive goal interdependence exists when all members of a group work together to accomplish the same task. That task cannot be completed without participation from all of the group members (Johnson & Johnson, 2003).

*Praxis.* Praxis is the action of making theoretical or philosophical lessons practical. An instructional coach will work with teachers to put ideas into practice (Knight, 2007).

*Reciprocity.* In an instructional coaching relationship, the coach and the teacher learn and share ideas with each other. Coaching is not a dissemination of information from the coach to the teacher (Knight, 2007).

*Reflection.* Instructional coaching provides an opportunity for teachers to look at their practice in and out of the classroom. The coach asks simple and directed questions which require the teacher to look inward and analyze his or her choices and actions (Knight, 2007).

*Research-based instructional strategies.* Any teaching strategy supported by peer-reviewed research that has been demonstrated to benefit student learning (Hattie, 2012; Marzano, Pickering & Pollock, 2001).

*Student academic support.* Students who care about how much their classmates learn, and how they progress academically exhibit student academic support (Johnson & Johnson, 2002).

*Teacher.* Teachers work with students in the classroom and are supported by an instructional coach (Knight, 2007). In the district studied, all teachers were required to undergo a minimum of three hours of instructional coaching. For the purposes of the current study, teachers were differentiated from instructional coaches by being the recipients of coaching.

*Voice.* In an instructional coaching relationship, all points of view are valued. The coach and the teacher each speak with authority, and each is listened to by the other (Knight, 2007).

### Significance of the Study

Stowers and Barker (2010) cautioned that coaches may engage in behaviors that can influence the teachers whom they coach. Coaches may have hidden agendas, may provide inconsistent feedback, or may identify fault rather than offer support to correct issues. Knight's (2007) partnership principles provide a framework for avoiding these pitfalls, but minimal research has been conducted to determine if these principles lead to positive coaching outcomes.

Specifically, Anderson, Feldman, and Minstrell (2014) observed the need for trust in their study of science coaching. The authors asked a number of questions regarding a district-wide examination of the coach-teacher relationship and its bearing on the trust culture of a school or district. While trust is not one of Knight's (2007) partnership principles, the author does speak to the importance of the relationship between coaching and trust building. "If we are viewed in such a way, and teachers come to see us as colleagues they can trust, there is a good chance that together we can make a difference in the way teachers teach and students learn in schools" (p. 52).

Kohler et al. (1997) reported on a coach working with a teacher to support cooperative learning usage in the classroom to a positive effect. This study was conducted using only one coach, and cooperative learning represented only a portion of the coaching discussions. The authors acknowledged that use of only one coach limited the degree to which the findings of the study could be generalized. "Future studies should

employ numerous peer coaches to ascertain the generalizability of these findings” (p. 248).

Teemant (2014) ascertained that instructional coaching positively influenced student performance on assessments. The author suggested further study into instructional coaching for two reasons. First, only one coach was used to support 36 teachers. The results reflected the ability of the single coach, rather than the process of coaching. Second, the coach was not a member of the school system that was studied, but rather brought in from a university. The author recommended that district-wide coaching be investigated.

Teemant, Wink, and Tyra (2011) observed the need for further study into the amount of time that a teacher spent with a coach. It was unclear if the amount of time influenced the teacher’s ability to successfully achieve the goals that were established. The authors acknowledged that achievement was difficult to determine, but the nature of this relationship could be clarified. In addition, they observed the need for a connection between teacher achievement and student achievement to be investigated in future research.

It is not clear what makes the implementation of research-based instructional strategies successful. In their study of the implementation of science inquiry instructional strategies among 454 teachers, Penuel, Fishman, Yamaguchi, and Gallagher (2007) concluded that time for planning was key to the implementation of these strategies. The authors observed that further study is needed into what kinds of resources are necessary for the successful implementation of research-based instructional strategies.

Goldschmidt and Phelps (2010) suggested that a study be done to find what factors contribute to teachers' continued benefit after receiving training in research-based instructional methods. The authors found that training did increase teachers' knowledge over time. In a longitudinal study, some of those gains were lost over time. They suggested that further research be conducted to understand and counter this knowledge loss.

Reinke, Stormont, Herman, and Newcomer (2014) identified the need for more study on which coaching activities provided more positive outcomes for teachers and students. In their study of coaching-supported implementation of classroom management activities, the authors demonstrated that as a teacher's time with a coach increased, so did the fidelity to which the classroom management strategy was implemented. The specific nature of the interactions between coach and teacher was not studied though.

Siegel (2010) investigated a single teacher's implementation of cooperative learning in the classroom. The data displayed that this teacher used the research-based cooperative learning strategy and adapted it to his classroom successfully. The author identified that this teacher was highly trained in cooperative learning; therefore, the high implementation of the cooperative learning strategy was expected. Siegel suggested that further research be conducted to determine which factors, if any other than prior experience, could influence teacher implementation of cooperative learning in the classroom.

There is substantial need to study further the nature of instructional coaching. Numerous authors (Kohler et. al, 1997; Goldschmidt & Phelps, 2010; Teemant, 2014) have identified the need to understand and explain the relationship between coach and

teacher. In addition, the authors have explained that the mechanism by which coaches work with teachers to support research-based instructional strategies is unclear. Minimal research has clarified the relationship between instructional coaching and the support of cooperative learning in the classroom. By understanding how instructional coaches are used by teachers, and how instructional coaches are used as cooperative learning coaches, instructional coaches can refine their practice to better serve the needs of the teachers, thereby improving instruction for the students of those teachers.

#### Process to Accomplish

The researcher conducted the current study in a suburban school district near a major Midwestern city. There were three schools in the district, and each school had five building instructional coaches. An instructional coach taught half of a standard teaching load, and the other half of each coach's day was spent working with teachers. All teachers in the district were assigned to work with an instructional coach as part of the collective bargaining agreement. The coaching assignments were determined at the end of the previous school year by the assistant principal for teaching and learning in each school. A teacher was required to meet with the coach for at least three one-hour sessions throughout the school year. The nature and topic of those meetings was at the discretion of the teacher.

All teachers in the district were required to undergo introductory cooperative learning training. Teachers newly hired to the district participated in the training in their first year. Any teacher could voluntarily repeat the training, and other advanced trainings in cooperative learning were offered periodically. All teachers in the district who were taught in the district in the 2015-2016 school year were invited to participate in the

current study; 366 teachers were invited to participate in the project, and 38 teachers actually participated. Teachers who were newly hired in the 2016-2017 school year were not invited to participate because they had not been through cooperative learning training and they had not participated in a full year of instructional coaching.

The non-experimental study was conducted via the use of a questionnaire (See Appendix A), the Classroom Life Instrument – Teacher Perception Survey (see Appendix B), and the Instructional Coaching – Teacher Perception Survey (see Appendix C), which were administered via Google Forms. Quantitative data were collected from teachers. The data from the questionnaire and surveys were analyzed to understand how the partnership principles of instructional coaches were being utilized in the coaching relationship, and how teachers perceived the degree to which cooperative learning was being used in the classroom.

The questionnaire collected demographic data about the participants, such as age, gender, and the number of years that the participant had been teaching. The questionnaire also collected data about the amount of time the participant worked with an instructional coach, and how much of that time was devoted to cooperative learning. The first survey collected data about the amount of cooperative learning training the participant received when that training occurred. The second survey collected information about what the participant's relationship with the instructional coach was.

Quantitative data about cooperative learning were collected in the first survey, the Classroom Life Instrument – Teacher Perception Survey. The Classroom Life Instrument was first used by Johnson, Johnson, and Anderson (1983) and was completed by students. In the original study, student perceptions of cooperative learning were found to be a

reliable measure of cooperative learning usage in the classroom. The survey used in the previous study was published in its entirety (Johnson & Johnson, 2002). The questions used on the teacher survey in the current study paralleled those of the student survey, but were adapted by changing student-focused statements to teacher-focused statements, with permission (D. Johnson, personal communication, January 5, 2016). For example, one student-focused statement was “Other students in this class want me to do my best school work” (p. 182). The statement was altered to be teacher-focused. “I believe that students in my classes want each other do their best school work” (see Appendix B). The Classroom Life Instrument was not used in its entirety; instead five subscales were used. The five subscales used represented a variety of measures of cooperative learning present in a classroom while the survey remained short in order to encourage participation. Data were collected in the five subscales. The subscales were: student academic support (reliability coefficient of .67), cooperation (reliability coefficient of .83), positive goal interdependence (reliability coefficient of .61), class cohesion (reliability coefficient of .51), and individualistic learning (reliability coefficient of .80).

The researcher was not aware of any existing survey instruments that encompassed the Knight (2007) model of instructional coaching, and neither was Knight (J. Knight, personal communication, February 8, 2016). The researcher created the Instructional Coaching – Teacher Perception Survey (see Appendix C) to collect quantitative data about instructional coaching. These data reported teacher perceptions of the seven partnership principles of instructional coaching. The participants reported their perceptions of how their instructional coach behaved along seven subscales: equality, choice, voice, dialogue, reflection, praxis, and reciprocity (Knight, 2007). The survey

contained definitions of these terms, which were taken from Knight. The participants rated their agreement with whether the instructional coach exhibited the characteristics on a five-point Likert scale. This survey was piloted to 10 teachers who worked outside of the district prior to the start of the study. The participants of the pilot were not included in the pool of potential participants for the current study.

After the pilot, the questionnaire and surveys were determined to be acceptable, and data collected for the current study was ready to begin. To introduce the current study and to obtain consent, the researcher delivered an introductory letter (see Appendix D) and informed consent document to the potential participants' school mailboxes. The potential participants were given one week to agree to participate. The researcher extended the timeline to 47 days to account for late responses. When the participants consented, they signed the informed consent letter in the presence of a witness. The researcher placed a sealed box in the mailroom at each of the three schools in the district. Participants were given the option of placing the signed informed consent letter in the sealed box, or sending it to the researcher via interschool mail. The researcher compiled a list of participants from the completed informed consent forms.

The researcher emailed the questionnaire and surveys via a Google Form (see Appendix F) to the participants who consented to participate in the study. The participants were instructed to complete the survey within one week. The results were password protected and kept confidential. The data were kept on the researcher's personal Google account, and no one from the district's administration had access to the data.

The first research question was: to what degree are the seven partnership principles of instructional coaching present in the coaching relationship? The quantitative data from the first research question were reported and descriptive analyses were performed on four variables: the number of hours the teacher worked with an instructional coach, the number of hours the teacher worked with an instructional coach on cooperative learning, each instructional coaching subscale, and a total instructional coaching score.

The second research question was: what relationship exists between the reported use of the partnership principles of instructional coaching and cooperative learning in the classroom? The quantitative data were analyzed by Spearman correlations and Pearson product-moment correlations. An analysis was performed between the teacher's perceived use of instructional coaching subscales and the teacher's perceived use of cooperative learning subscales. An analysis was also performed on the teacher's perceived use of instructional coaching subscales and a total coaching score.

The third research question was: how does a teacher's use of cooperative learning differ as a factor of instructional coaching use? To analyze these data, three independent samples *t*-tests were performed. The first *t*-test compared the subscales of cooperative learning between teachers who used their instructional coach for cooperative learning less than 50% of the time, and those who used their instructional coach as a cooperative learning coach 50% of the time or more. The second *t*-test compared the cooperative learning subscales of teachers who would and would not have used their instructional coach more if they had more time. The third *t*-test compared the subscales of cooperative

learning of teachers who would and would not have used their instructional coach more if the coach had more time.

Limitations were minimized, but some remained. The study relied on perceptions of cooperative learning. Direct classroom observation of cooperative learning may have yielded different results, but such observation was not possible. Also, the researcher did not know of any existing surveys based on the Knight (2007) model of instructional coaching. Therefore, an instrument had to be designed for the current study. Finally, the researcher was an instructional coach and cooperative learning trainer in the school district where the study was collected. This factor may have led to unintentional skewing of the data.

### Summary

The current study sought to demonstrate how instructional coaches were utilized by teachers. Understanding how teachers used coaches and how the coaches supported the use of cooperative learning in the classroom addressed a need in the research base and provided background and insight to instructional coaches. By examining teacher perceptions of cooperative learning usage, the impact of instructional coaching was clarified. Ultimately, the current study, in a small way, helped teachers to understand the use of instructional coaching and the implementation of cooperative learning in high school classrooms. This need to understand the use of instructional coaching and the implementation of cooperative learning required an examination of the academic literature surrounding these topics. This examination will take place in the next chapter.

## CHAPTER II

### REVIEW OF THE LITERATURE

#### Introduction

The following literature review focuses on the histories of instructional coaching and cooperative learning usage, as well as related, relevant research in these fields. The author reviewed the history and various contexts in which instructional coaching has been practiced. In addition, the research base of the Knight (2007) model of instructional coaching was investigated in its practice and effectiveness. The author also reviewed the history and various models of cooperative learning in the classroom. The impact and effectiveness of the Johnson and Johnson (2003) model of cooperative learning was investigated. Finally, the methods and accuracy of measuring teacher perception were reviewed. By examining the historical and research contexts of instructional coaching, cooperative learning, and measuring teacher perceptions, the author provided a framework for investigating the relationship between instructional coaching and cooperative learning support.

#### Instructional Coaching

##### History of Instructional Coaching

Joyce and Showers (1980) proposed a method of teacher training, developed from a research base, and formulated from three assumptions: teachers are good learners, teachers can improve their skills given very specific conditions, and the research

describes those conditions. One of the conditions that the authors described was that teachers learn better when provided “in-classroom assistance with the transfer of skills and strategies in the classroom” (p. 380). The authors proposed that if teachers were allowed to practice instructional strategies, have the opportunity to see modeled demonstrations of those experiences, and be provided with feedback on their use of those strategies, their learning, and their students’ learning, would be much greater.

In a foundational study based on the earlier proposal, Showers (1982) investigated the use of pairing teachers experienced in certain instructional strategies with those who had just learned them. Over the course of six weeks, nine middle-school teachers were observed and coached on their use of three different teaching models. Eight teachers were observed, but not coached. At the conclusion of the study, Showers found that the coaching performed by the experienced teachers was successful in assisting the teachers with whom they had worked. The teachers who had received coaching were more comfortable with understanding the newly learned material and more likely to use the teaching strategies in their classrooms. Showers described coaches by the actions that they took, rather than the role they held, stating that “the first function of coaching is to provide support and encouragement to another person during a difficult process” (p. 3).

Showers (1984) additionally investigated the way in which teachers could be trained to become peer coaches. The researcher showed that with a small amount of training, teachers became more effective coaches than those who did not receive training. In this study, a group of teachers were assigned as coaches. Some received training in basic coaching skills, and others did not. These coaches were then assigned to work with teachers. The students of trained-coaching teachers outperformed the students of the

nontrained-coaching teachers on a common exam. The training of coaches was shown to influence student academic performance. The author recommended that coaching skills should be taught in the same way that teaching skills are taught.

Showers and Joyce (1996) reflected on their work in establishing peer coaching. The authors explained that while coaching is important in developing the skills of individual teachers, it should exist as a method that leads to institutional change. The research had shifted in the time since their foundational work. Going forward, the authors explained that the goal of coaching would be to establishing coaching programs as a means to bring about school improvement.

#### Models of Instructional Coaching

Killion and Harrison (2006) described 10 different roles that an instructional coach can fill. The authors described these roles as:

- resource provider
- data coach
- curriculum specialist
- instructional specialist
- mentor
- classroom supporter
- learning facilitator
- school leader
- change catalyst, and
- learner.

The authors explained that it would be unlikely for one coach to fulfill all of these roles. Each instructional coaching program could incorporate multiple aspects of these roles, but one individual would have a difficult time embodying all of these roles. The needs of schools and districts would be weighed against the skill set of the coaches to determine which of these roles instructional coaches should fill. Therefore, instructional coaching could look very different based on where it was being implemented and what the goals of its implementation were. By engaging in many of these roles, the authors suggested that coaches can influence the culture of their schools, positively affect student learning, and change the professional practice of their peers for the better.

Many instances of these roles can be found in the various tasks and responsibilities given to instructional coaches. Parker, Wasserman, Kram, and Hall (2015) described the various models in which peers can coach each other. All of the models that the authors described involved developing strong relationships and maintaining positive interpersonal communications between the peers.

Aguilar (2013) described the importance of the relationship that is built between instructional coach and teacher. That relationship leads to deeper listening, conversation, and ultimately success in transforming a school. The author wrote that instructional coaches and teachers use that relationship to effect change at a systemic level. This transformative coaching can impact what teachers do, how they do it, and why they do it. Aguilar described six different lenses through which coaches could guide their discussions with teachers. The lenses were:

- inquiry
- change management

- systems thinking
- adult learning
- systemic or structural thinking, and
- emotional intelligence.

In this model, coaches are encouraged to develop relationships over time with teachers by developing conversations in each of these six areas.

Sweeney (2013) described a method of instructional coaching that is focused on using data to analyze the impact that the coach has on student learning. In this model, the teacher and coach set goals based on instructional standards and work together to accomplish those goals. Success is determined based on objective measures of data collected by the instructional coach. The teacher then uses the data to make informed decisions about which instructional methodologies are most effective in the classroom. Sweeney described the work of student-centered instructional coach as revolving around six core practices. They are:

- Conversations are framed by specific learning targets.
- Coaching involves regular analysis of student work.
- Coaching is driven by evidence of student learning.
- Collaboration may include co-planning and co-delivery of instruction.
- Coaching is ongoing and occurs with individuals and teams of teachers.
- Coaching is led by the school leader. (p. 5)

Sweeney's framework described a way that coaches could use to monitor and influence the actions of the students rather than the actions of teachers via coaching.

Knight's (2007) model of instructional coaching is a system in which dedicated professionals work with teachers to build instructional capacity. Coaches work directly with teachers by adhering to seven partnership principles:

- choice
- equality
- dialogue
- praxis
- reciprocity
- reflection and
- voice.

These principles guide the interactions between instructional coaches and teachers to build relationships and trust. Instructional coaches may fill a variety of roles within a school, and they may work with groups or individuals. Instructional coaches may be literacy coaches, learning leaders, technology coaches, mentors, and professional development providers. Instructional coaches may also be generalists, working with teachers of any discipline on any instructional strategy, or they may be specific to a single instructional discipline. By working directly with a variety of teachers about any of a number of topics, instructional coaches can serve as agents of change for learning institutions.

The seven partnership principles of instructional coaching (Knight, 2007) are attitudes and behaviors that are present in coaching relationships. Bausch and Voorhees (2008) presented a case study in which an elementary educator worked with an instructional coach. Much of their discourse was transcribed. In their communication and

in the development of their relationship, all of the partnership principles were evident. The teacher and coach came together to understand each other's perspectives and worked to address the needs of one struggling learner. This use of case study and transcript analysis illustrated the types of conversation that regularly occur between teacher and instructional coach.

**Choice.** The partnership principle of choice (Knight, 2007) maintains that teachers should be able to decide the topic and manner in which they are coached. Kanaya, Light, and Culp (2005) found that greater learning occurred when teachers had a choice in what they were learning. When technology instructional coaches worked with teachers on projects of the teachers' own choosing and interest, the teachers maintained learning and implemented it in the classroom. In one study (Teemant, 2014), teachers remarked that the coaching relationship was positive due to the fact that they could work on what they wanted to work on when they wanted to work on it. The process of coaching was individualized, rather than generic.

**Dialogue.** The partnership principle of dialogue (Knight, 2007) involves coaches engaging in a sharing of ideas. In their study of the New York City public schools, Elmore and Burney (1997) identified the benefits of dialogue in generating ideas that were used to improve instruction. Andersen, et al. (2014) found that among science coaches, establishing trust was vital to the coaching relationship. When coaches established a trusting relationship with the teachers whom they coached, the teachers engaged in more risk-taking in the classroom. Kretlow et al. (2012) reported about teachers who worked with coaches to develop research-based instructional strategies. The authors found that when teachers worked with a coach on the implementation of these

strategies, the coaches helped to build confidence in the teachers both prior to and during the coaching sessions, which resulted in the teachers using those strategies in the classroom.

Equality. The partnership principle of equality (Knight, 2007) was evident in successful coaching relationships. In one study, (Vanderburg & Stephens, 2010) teachers reported that the comfort they felt when working with an instructional coach gave them confidence to implement various literacy strategies in the classroom without fear of judgement. This degree of comfort also allowed for a greater degree of authentic assessment of what the students knew and could do.

According to Koballa, Bradbury, Glynn, and Deaton (2008), coaches and mentors also learned novel instructional strategies alongside beginning science teachers. The novice teachers learned new instructional strategies and sought instructional support from the experienced teachers. Simultaneously, the experienced teachers appreciated and learned from the novel approaches that the novice teachers used in the classroom. This co-learning was empowering for both the novice and experienced teachers.

Praxis. The partnership principle of praxis (Knight, 2007) was visible in numerous instances of instructional coaching. Teachers reported (Vanderburg & Stephens, 2010) that they were more likely to implement literacy strategies that they had learned about and worked with after being coached. Koballa et al. (2008) found that among beginning science teachers, coaches and mentors served as guides in implementing lessons in the classroom. Another set of researchers (Landry, Anthony, Swank, & Monseque-Bailey, 2009) found that teachers of preschool-aged children

consistently demonstrated improved instruction when they worked with coaches in developing new instructional strategies.

Reciprocity. Instructional coaches and teachers will learn from each other in a true instructional coaching relationship (Knight, 2007). Wilson, Dykstra, Watson, Boyd, and Crais (2012) studied the coaching of teams of early childhood autism educators. The teacher reflections showed that through the coaching process, teachers were more apt to learn from each other and recognized the value in collaboration.

Reflection. Reflection (Knight, 2007) is the partnership principle that describes a teacher's ability, with the help of an instruction coach, to think about and learn from his or her own classroom instruction. Lee (2007) found that teachers who worked with an instructional coach were better able to address aspects of instruction with which they previously had been uncomfortable. One teacher found that working with the instructional coach helped communication with parents to a greater degree than before the work with the coach. Teemant (2014) reported that teachers found meeting with a coach resulted in a greater degree of internalized pressure to implement the strategies that the teachers had discussed with their coach when compared to teachers that had not discussed those strategies with their coach.

Morgan et al. (1994) studied special education preservice teacher trainees. One method that coaches used in order to get the teacher trainees to engage in reflection was the use of video. The teacher trainees reported an average satisfaction with using video of 4.8 out of a possible 5 points. The authors observed that "In some experiments, data collection from videotape may be one way to reduce a threat to validity" (p. 74).

Voice. The partnership principle of voice (Knight, 2007) involves the valuing of all viewpoints in a coaching relationship. The work of Koballa et al. (2008) demonstrated that beginning teachers required emotional support. Freedom of expression on the part of the beginning teacher was vital in a coaching or mentoring relationship. By feeling free to express their difficulties honestly, beginning teachers were able to fully use their coach or mentor.

#### Roles of Instructional Coaches.

A number of instructional coaching programs have revolved around developing teachers' literacy instruction skills (Biancarosa, Bryk, & Dexter, 2010; Carlisle & Berebitsky, 2011; Collet, 2012; Mangin & Dunsmore, 2015; Range, Pijanowski, Duncan, Scherz, & Hvidston, 2014; Vanderburg & Stephens, 2010). Biancarosa et al. found that when teachers worked with instructional coaches over a four-year period, student assessment scores increased each year. The authors attributed this continuous growth to a lasting and permanent impact on teachers' classroom practices due to their work with an instructional coach.

At times, instructional coaches were expected to take on the role of learner in the midst of their coaching activities. Gallucci, Van Lare, Yoon, and Boatright (2010) studied a literacy coach who was building personal knowledge and adding to institutional knowledge as coaching activities were being carried out. Mangin and Dunsmore (2015) found that instructional coaches have been used as drivers of reform in schools. These coaches were most successful in altering teachers' use of literacy strategies in the classroom when focusing on influencing the practice of individual teachers. While

learning new strategies, the instructional coaches passed that knowledge on to the teachers whom they coached.

Some instructional coaches were used as technology coaches (Kanaya et al., 2005; Sugar 2005). Technology coaches help teachers to implement new technologies into their instructional practice. Sugar studied a technology coach who worked with numerous elementary school teachers. Over the course of four months, nine teachers had weekly individual meetings with the technology coach. At the meetings, the teachers determined the specific technologies that they wanted to integrate into their practice. The coach was available for mid-week follow up in person or via email. The teachers reported that the coach was useful in explaining the technology and in helping them in their classroom instruction. Some of the teachers also remarked that weekly technology coaching meetings should be offered to all teachers. One-on-one meetings with individualized instruction were more useful than one-size-fits-all technology training.

Coaches have also worked in a mentor capacity (Kang, 2011; Koballa, et al., 2008; Lyne, 2013). Lyne found that when mentors worked with teachers over an extended period of time, the teachers increased in the degree of self-efficacy they demonstrated in implementing new strategies in the classroom. The measured effect increased over time that the mentor worked with the teacher. Kang found that coaches who served as mentors had a positive impact on teacher retention. Those new teachers who received mentoring were more likely to be retained by their schools and were more likely to continue working in their schools.

Instructional coaches have also been responsible for delivering lessons in instructional methodologies to educators (Clarke & Hollingsworth, 2002; Elmore &

Bruney, 1997; Lee, 2007; Range et al., 2014). Clarke and Hollingsworth investigated various models of developing a successful professional growth model for teachers. A number of the models presented in the study by Clarke and Hollingsworth reflected the need for experimentation in the classroom and engaging with an external source of knowledge. While the method of support in this study was not explicitly referred to as instructional coaching, such practice is inherent in the instructional coaching model.

In one study (Roberts, Kaiser, Wolfe, Bryant, & Spidalieri, 2014), professional development providers were tasked with coaching caregivers in language education techniques. The researchers gave the caregivers instruction about how to use four enhanced milieu teaching language supports successfully for their children. The professional development providers then coached the caregivers in their implementation of those techniques to positive effect. The children who received instruction from the coached caregivers showed significant language gains.

Penuel et al. (2007) investigated various factors in making professional development experiences effective for teachers. One of their findings was that when teachers received support from professionals after training in the use of a particular strategy, implementation of that strategy increased dramatically when compared to implementation by others who had not received follow-up support. The strategy was used more frequently, and, therefore, teacher knowledge of the practice was higher.

Wilder (2014) demonstrated that an instructional coach could have success in working with a teacher outside of his or her content area by engaging in collaborative inquiry and maintaining transparency in the coaching process. In fact, the author found that by not having the same degree of disciplinary knowledge as the teacher, the coach

was forced to engage in deeper inquiry, which allowed for a more productive coaching experience.

The process of coaching another can be transformative for the instructional coach. In a case study by Munroe and Driskill (2014), one instructional coach transitioned back to being a full-time classroom teacher and observed an altered perspective about her role as a teacher. By serving as an instructional coach, the teacher found an increased appreciation for the need of support and collaboration among colleagues. The teacher's outlook was altered, and now focused on the school as an instructional community rather than focusing simply on a teacher's role in the classroom.

#### Measuring the Impact of Instructional Coaching.

There are many ways in which the success of an instructional coach has been measured. One way was measured by Carlisle and Berebitsky (2011). These researchers focused on student learning by measuring the use of literacy coaches to support literacy professional development activities for first grade teachers. The teachers showed no change in their attitude toward the professional development activity regarding having been coached, but the students of the teachers who had been coached showed a dramatic increase in their literacy skills.

Another way that has been used to measure the success of instructional coaching was by measuring teacher confidence in the topics on which they were coached. Collet (2012) found that when instructional coaching supports were gradually removed, teachers maintained the skills that they developed in working with the coach. When coaches decreased the quantity and duration of coaching sessions throughout a semester, teachers observed that their confidence remained in practicing the skills that they worked on with

the coach. The coaches also decreased the recommendations given to teachers as time increased. Instead of recommendations, the coaches provided positive affirmations and the teachers generated their own ideas for classroom instruction.

Wilson et al. (2012) used a combination of teacher interviews and surveys to determine the success of different peer-coaching groups. Groups with coaching showed an increase in collaboration and attitudes towards team members with coaching over time. Conversely, groups without coaching showed a decrease in collaboration over time. The team that had received coaching recognized its value, and requested more time for their team to work with a coach.

The Knight (2007) model of instructional coaching was used as the basis of the current study because of its use in the school district that was studied. The instructional coaches in the school district participated in at least two multi-day training sessions conducted by Knight, or those trained by Knight. The instructional coaches participated in book studies and discussion groups focused on Knight's model of instructional coaching. No survey or evaluation of the use of the seven partnership principles was known to exist (J. Knight, personal communication, February 8, 2016), so the author designed a survey to measure teachers' perceptions of the presence of the seven partnership principles in their relationships with instructional coaches. The author asked teachers to rate the degree to which they believed their instructional coaches exhibited each of the partnership principles.

## Cooperative Learning

### History of Cooperative Learning

Slavin (1981) suggested that humans became a dominant species on the earth not because of strength or size, but because of intelligence. That intelligence allowed humans to cooperate for the mutual benefit of all. Despite this success, the author explained, schools became places where students were encouraged to compete with each other. Cooperative learning should have been used instead of competitive learning because it better represented the natural strengths of humans. The cooperation that should have been encouraged in the classroom needed to be structured to allow for the maximum benefit for all. Slavin wrote that the research showed cooperative learning to be easily implemented and beneficial to students.

In a foundational work, Johnson et al. (1973) researched student preferences in both cooperative and competitive learning paradigms. Students were interviewed to determine if their perceptions were that school was cooperative or competitive. The researchers asked further questions of the students to determine whether they preferred cooperative or competitive learning situations in school. Students were then divided into two groups: internalizers and externalizers. Those who credited themselves with success or failure were internalizers, and those that credited something other than themselves were externalizers. Most students, whether they were internalizers or externalizers, preferred cooperative learning regardless of their experiences with school.

Different aspects of cooperative learning were examined after the initial benefits were demonstrated. Williams, Harkins, and Latané (1981) determined that when individuals were held accountable for their work in a group, the impact of “social

loafing” (p. 303), or decreased output in a group, lessened. The explicit teaching of social skills in a cooperative learning context increased appreciation of peer groups and academic achievement (Mesch, Lew, Johnson, & Johnson, 1986). When students who worked in a group had common academic goals, group productivity and individual achievement increased (Johnson, Johnson, & Stanne, 1989).

Cooperative learning has not only been shown to benefit student achievement in academic subjects. Johnson, Johnson, and Taylor (1993) researched high-achieving students, regardless of whether they were taught in an individual or cooperative context. These students showed gains in self-esteem when taught using cooperative techniques.

Jones and Sanford (2003) investigated the use of cooperative learning to teach students conflict resolution strategy. The researchers demonstrated that these cooperative learning-based conflict resolution strategies increased students’ affinity for the classroom and for their classmates. Also, the students reported that when they were taught in cooperative context, they felt that their teacher treated the class with more respect than when cooperative learning was not used.

#### Models of Instructional Coaching

One model of cooperative learning was described by Kagan (1994). The Kagan cooperative learning model identified six key concepts: teams, cooperative management, will to cooperate, skill to cooperate, four basic principles, and structures. Not all of these concepts are necessary to have a cooperative lesson, according to Kagan, but a teacher should have knowledge of all six key concepts to implement cooperative learning properly in the classroom. Teams, as Kagan explained them, need to be formed purposefully with thought given to group size, ability of the students, race, and gender.

Cooperative management was defined by Kagan as the ability of a teacher to arrange the students in such ways to maintain control of the learning environment. The will to cooperate should be established through teambuilding and class-building activities. The skills to cooperate should be practiced and developed within the classroom. The basic principles of Kagan's model of cooperative learning are: positive interdependence, individual accountability, equal participation, and simultaneous interaction. Each of these principles needs to be present in a Kagan cooperative learning lesson. The structures of cooperative learning provide specific instructions to ensure that cooperative learning is happening in a lesson.

Johnson and Johnson (2003) described cooperative learning as a research-based instructional strategy that provides structure and purpose for students to work in groups. The authors identified five essential elements of cooperative learning: positive interdependence, individual accountability, promotive or face-to-face interaction, the explicit teaching of social skills, and group processing. In this model, each cooperative learning lesson contains each of these essential elements. In cooperative learning lessons, students work toward outcomes that are beneficial for themselves, as well as for their partners. Cooperative learning is one of three learning paradigms that Johnson and Johnson described. The other two are competitive learning and individualistic learning. In competitive learning lessons, students work toward an outcome that is beneficial for themselves, but detrimental to other students. In individualistic learning, students work toward an outcome that is beneficial for themselves, but are not required to concern themselves with the academic success of the other students. Cooperative learning groups may be informal, and last only a few minutes, or they may be long-term and academic in

nature. These long-term, formal, cooperative groups may last as long as a course term. A third type of cooperative group is a non-academic base group. The base group is meant to build emotional support and to develop social skills within the classroom.

**Positive Goal Interdependence.** According to Johnson and Johnson (2003), one essential element of a cooperative learning lesson is positive goal interdependence. Altun (2015) found that students recognized the importance of their partners in a cooperative learning group. The students explained that other class members helped them to have success in learning the required material, and without the others, the students would not have learned as much.

**Individual Accountability.** According to Johnson and Johnson (2003), in a cooperative group, students are still required to demonstrate their individual learning. In a study of university engineering students, Hsiung (2012) found that students who learned course material in a cooperative context outperformed students who learned the material individually. These results were consistent on both homework assignments and classroom assessments. The positive academic benefits of the cooperative learning groups increased as the time spent working the group increased.

Altun (2015) also found a positive academic benefit when measuring students who were learning individually after cooperative instruction. The author investigated sixth grade science students. Those students who learned the material cooperatively outperformed their peers on classroom assessments. The experimental treatment was repeated and the academic benefit increased as the time that the students spent working cooperatively increased.

Group Processing. Another of Johnson and Johnson's (2003) essential elements of cooperative learning is group processing. In a study of online discussion groups, Schellens and Valcke (2005) found that collaborative metacognitive discussion solidified individual learning in college students who had learning and attention disabilities. The authors suggested that these results were generalizable to all college students. Bertucci, Johnson, and Johnson (2012) found that elementary students who engaged in group metacognitive processing of their learning achieved higher scores on classroom assessments when compared to peers who did not process their learning in a cooperative group. Strahm (2007) showed that student group processing of cooperative activities led to various benefits. University students who engaged in group processing reported higher levels of belonging and self-worth, although the students did not attribute these feelings to cooperative learning.

Social Skills. The fifth essential element of cooperative learning, according to Johnson and Johnson (2003) is the explicit teaching of social skills. Mistry, Panigrahi, and Bhatt (2016) investigated the growth of social skills in university students after being exposed to lessons based upon cooperative learning. Qualitative data were collected by the researchers in the form of field notes. The authors collected data on students' growth in numerous social skills. At the end of the study, the students showed moderate to excellent growth in these skills.

Hennessey and Dionigi (2013) researched cooperative learning in elementary schools in Australia. Teachers who had an understanding of cooperative learning recognized the positive benefits of cooperative learning on student behavior. The teaching of social skills to students was linked to the positive behavior of students. The

use of cooperative learning was also linked to a teacher's ability to maintain control of the students in the classroom.

#### Measures of Cooperative Learning.

The Classroom Life Instrument (Johnson & Johnson, 2002) has been used to measure the various aspects of cooperative learning. The authors used the survey to measure student attitudes toward their classmates, their teacher, and their learning experiences. The data collected from the survey illustrates the degree to which students value cooperation, how cooperative their classmates are, and how cooperative they are. The attitudes measured were shown to be learned in the classroom.

An early version of this survey, the classroom climate instrument, was first used by Johnson, Johnson, and Anderson (1983). They used the survey to compare the perceptions of students' attitudes of positive goal interdependence, and attitudes toward teachers and peers. Johnson et al. used the survey to demonstrate that students who were routinely exposed to cooperative learning activities scored highly on these scales as compared to their peers who had not regularly been exposed to cooperative learning activities.

Bertucci et al. (2012) used the Classroom Life Instrument to measure student perceptions of peer and teacher support in their student of the impact of group processing on achievement. Jones and Sanford (2003) used the Classroom Life Instrument to investigate the impact of conflict resolution strategies on students' attitudes towards each other and their class.

Other instruments have been used to measure the use of cooperative learning. Strahm (2007) designed and used a questionnaire to measure the degree and effects of

group processing on students. The researcher utilized a student questionnaire and student focus groups to collect the data. The data were measures of students' perceptions of the effect of group processing on their feelings towards working in cooperative groups.

Tsay and Brady (2010) designed and used a questionnaire in their measure of cooperative learning in the classroom. Specifically, the researchers were investigating student perceptions of participation within a group while working on a research project. The data were focused on what role each individual played in the group, and what they thought of the roles that their partners played in the group.

Wang, Yu, and Wu (2013) also designed and administered a survey to students to measure the degree of cooperative learning that was occurring in their virtual classroom. After students completed structured cooperative activities in their online groups, the authors distributed a questionnaire. These data were collected based upon the five essential elements of cooperative learning.

Cooperative learning usage was also measured through teacher interviews and classroom observation. Siegel (2010) observed lessons for the presence of Johnson and Johnson's (2003) essential elements of cooperative learning. In interviews prior to and after observed lessons, Siegel collected qualitative data on each teacher's personal definitions of cooperative learning, methods for cooperative learning implementation, and analysis of their perceived use of cooperative learning in the classroom. Hennessey and Dionigi (2013) used semi-structured interviews to collect data about teachers' knowledge, attitudes, and use of cooperative learning.

Cooperative learning in the current study.

For the purposes of the current study, cooperative learning was measured by teacher perception of the classroom environment. Using an adapted version of the Classroom Life Instrument (Johnson & Johnson, 2002), the author of the current study asked teachers to rate the degree of cooperative learning based upon their perception of: student academic support, overall cooperation, positive goal interdependence, class cohesion, and individualistic learning. These measures provided a snapshot of the overall level of cooperation and the perceived value of cooperation occurring in the classroom.

The Johnson and Johnson (2003) model of cooperative learning was used as the basis for the current study because of its use in the subject school district. The school district has provided training in this cooperative learning model for 14 years prior to the study. All teachers hired into the district are trained in the use of this model of cooperative learning, and its use is encouraged by the administration. The Classroom Life Instrument (Johnson & Johnson, 2002) was used for the current study because it specifically measures aspects of cooperative learning as defined by the Johnson and Johnson model. The survey was modified to assess the perceptions of the teachers rather than the perceptions of the students, as it was originally designed to do.

#### Teacher Perception Measures

The use of teacher perceptions has been shown to be a valid method of measuring teacher practice. Various researchers have used surveys, questionnaires, and interviews to determine what factors influence teachers and impact classroom instruction. Despite the positive results that have been shown, teacher perception measures are not without problems.

Harwood, Hansen, and Lotter (2006) used teacher perceptions to collect qualitative and quantitative data about the value and use of inquiry in the classroom. The authors found that teachers' perceptions of the importance of inquiry were correlated with the teachers' use of inquiry in the classroom. When teachers valued the process of student inquiry, they were more likely to encourage its use among students.

Hu, Clark, and Ma (2003) studied the use of technology in the classroom among teachers. The researchers surveyed teachers about their perceptions of particular computer applications prior to and after a four-week training course. Their data showed that teachers who had a positive perception of the program's usefulness were more likely to use the program. As teachers' perceptions of the ease of use of the program became more positive, their perceptions of its usefulness also increased.

Yao (2015) used focus groups to determine teachers' perceptions of classroom assessments. When asked generally about the nature and purpose of assessments in the classroom, teachers were generally positive about their use and implementation. The teachers who were studied expressed positive impressions of non-traditional assessments, such as project-based assessments, but when answering further questions, the teachers focused on more traditional types of assessments, such as tests and quizzes. In this case, the positive teacher perceptions were somewhat contradictory with statements previously made by them during interviews.

Teacher perceptions were not always shown to be accurate, however. Alvidrez and Weinstein (1999) investigated the accuracy of teachers' perceptions of preschool students' intelligence. The students' academic progress was tracked for 14 years after the initial measure of teacher perceptions. The accuracy of the teacher perceptions varied

wildly based on the socio-economic status of the students. Depending on the background and family dynamics of the students, the teachers grossly over- or underestimated the academic potential of the students.

### Conclusion

Instructional coaching is a method of supporting teachers that has been used in different forms since the 1980s. There are numerous models that describe the roles and manners of interactions that instructional coaches and teachers have with each other, and there is a foundation of research that shows that instructional coaching improves teaching and learning. Cooperative learning is an instructional strategy that has been shown to increase student learning over many decades of research. Student perceptions of cooperative learning usage have been measured, but teacher perceptions of cooperation among students has not been measured. Furthermore, little research exists to show how the use of instructional coaching supports the use of cooperative learning. Teacher perceptions have been shown to be a somewhat reliable measure.

### Summary

The use of instructional coaching and cooperative learning are well researched. Both strategies have been used to increase teacher effectiveness and to improve student learning. The connection between the two, however, is not well understood. The current study utilized teacher perception measures from a questionnaire and two surveys to understand the relationship between instructional coaching and cooperative learning better.

CHAPTER III  
METHODOLOGY

Introduction

The previous chapter reviewed the history of cooperative learning and instructional coaching in educational settings, as well as related, relevant research in these fields. Literature examining the effectiveness of cooperative learning and instructional coaching was reviewed and analyzed. In addition, various studies investigating the value of teacher perceptions of practice were reviewed. This chapter describes the methods utilized to determine how instructional coaching and cooperative learning were believed to be present in the secondary classroom. The current study used surveys to collect teacher perceptions of cooperative learning and instructional coaching.

To understand the use of instructional coaching and its relationship with the use of cooperative learning better, the researcher identified these research questions:

1. To what degree are the seven partnership principles of instructional coaching present in the coaching relationship?
2. What relationship exists between the reported use of the partnership principles of instructional coaching and cooperative learning in the classroom?
3. How does a teacher's use of cooperative learning differ as a factor of instructional coaching use?

## Research Design

The current study was non-experimental research in which the relationships between instructional coaching and cooperative learning support were determined and examined. Descriptive statistics were determined, Spearman and Pearson product-moment correlations were calculated, and independent samples *t*-tests were performed to analyze the data. Data were collected, utilizing three different instruments via Google Forms. The three instruments were a demographic questionnaire (see Appendix A), a cooperative learning survey (see Appendix B), and an instructional coaching survey (see Appendix C). The data were then analyzed using SPSS version 16.0.

The questionnaire and surveys were administered to participants via an emailed Google Form after the researcher received a signed consent to participate. The questionnaire contained questions about the demographics of the participants. The cooperative learning survey measured participants' attitudes about cooperative learning present in their classes. The instructional coaching survey measured participants' attitudes about their work with instructional coaches.

The first research question was: To what degree are the seven partnership principles of instructional coaching present in the coaching relationship? The data were analyzed with descriptive statistics. Each partnership principle was analyzed independently, and in aggregate.

The second research question was: What relationship exists between the reported use of the partnership principles of instructional coaching and cooperative learning in the classroom? These data were analyzed with Spearman and Pearson product-moment correlations. Each partnership principle of instructional coaching was correlated with the

various aspects of cooperative learning as measured in the cooperative learning questionnaire.

The third research question was: How does a teacher's use of cooperative learning differ as a factor of instructional coaching use? These data were analyzed by using three different independent samples *t*-tests. Differences in the cooperative learning subscale scores were analyzed for three different variables: percentage of time teachers used their instructional coach for cooperative learning, if teachers had more availability would they have used their coach more, and if the coach had more availability would the teacher have used the coach more.

The first independent samples *t*-test used question nine from the questionnaire (see Appendix A) to define the groups for comparison. The question asked the teachers to report the percentage of time that they used their instructional coach for cooperative learning. The cooperative learning subscales were compared for teachers who used their instructional coach as a cooperative learning coach less than 50% of the time, and those who used their instructional coach as a cooperative learning coach 50% or more of the time.

The second independent samples *t*-test used question seven to determine the groups for comparison. This question determined whether a teacher would have used their instructional coach more if they had more availability. The cooperative learning subscales were compared between those who reported *yes* and *no*.

The third independent samples *t*-test used question eight to determine the groups for comparison. This question determined whether a teacher would have used their

instructional coach more if the coach had more availability. The cooperative learning subscales were compared between those who reported *yes* and *no*.

### Participants

The school district examined in the current study contained three high schools in the suburbs of a large Midwestern city. At the time of the current study, 366 full-time classroom teachers were employed in the district. Thirty-eight of the teachers consented to participate in the study. Of the teachers responding, 16 were male and 22 were female. The average age of the respondents was 42 and the average time teaching was 17 years. Thirty-one of the 38 participants had received the introductory cooperative learning training offered by the school district. Twenty-three of the participants received at least one advanced cooperative learning training. Advanced cooperative learning trainings were, at least, an additional 16 hours of training per person.

The school district studied has a long history of cooperative learning practice. Johnson and Johnson trained an initial group of teachers and administrators over a decade prior to the study. Over time, the district selected a group of teachers to receive advanced cooperative learning training. This group of teachers began to train other teachers in basic and advanced methods in cooperative learning. At the time of the current study, the district had 12 teachers who were serving as cooperative learning trainers. Most of the teachers in the district had received introductory training in the use of cooperative learning. At the time of the current study, courses in advanced cooperative learning, cooperative controversy, cooperative technology, cooperative assessment, and cooperative lesson planning were offered in addition to the introductory course (B. Dill-Varga, personal communication, February 7, 2016).

There was also a long history of instructional coaching in the school district. At the time of the current study, each of the three schools within the district had five part-time building instructional coaches. Four of the coaches were generalists, coming from a variety of content backgrounds, and were trained in multiple instructional methodologies. One coach from each building was a special education specialist. All of the instructional coaches taught classes for half of the school day, and were responsible for meeting with teachers, providing professional development, and other supports for the other half of the day. Each coach was directly responsible for coaching about 30 teachers (B. Dill-Varga, personal communication, February 7, 2016).

In addition to the building instructional coaches, each department within the three schools had departmental instructional coaches. These coaches were full-time teachers with no reduction in teaching load. The departmental instructional coaches provided support to the building instructional coaches and were directly responsible for coaching four teachers (B. Dill-Varga, personal communication, February 7, 2016).

Every building instructional coach and departmental instructional coach received at least two days of training in instructional coaching from Knight (2007), the author of a foundational instructional coaching text. The training included sample coaching sessions, practice in questioning techniques, and instruction in the use of video as a tool for instructional coaching. This training was provided in the school district or at the Instructional Coaching Group in Kansas (B. Dill-Varga, personal communication, February 7, 2016).

## Data Collection

The current study used data that was collected via Google Forms. Within the form, there were three parts: a demographic questionnaire (see Appendix A), the Classroom Life Instrument – Teacher Perception Survey (see Appendix B) that measured cooperative learning use, and the Instructional Coaching – Teacher Perception Survey (see Appendix C), which measured instructional coaching use. Prior to administration of the questionnaire and surveys to the participants, the researcher piloted the study by sending the Google Form to 10 educators who were not in the participant pool. The results from the pilot study showed face validity and ease of use for the Google Form by the participants.

The data were collected over the course of 47 days in the fall of 2016. An introduction letter and consent to participate document were placed in each teacher's mailbox. If teachers consented to participate, they were instructed to return their forms to the researcher's mailbox or a sealed box in the school mailroom within one week.

When the researcher received the signed forms, a link to a Google Form that contained the questionnaire and the surveys was emailed to each participant. The questionnaire contained questions about basic demographics and teaching experiences such as age, gender, years of teaching experience, experience with cooperative learning, and amount of instructional coaching received.

The participants were instructed to complete the form within one week. Over the course of the following three weeks, more forms were returned to the researcher, so the time frame was expanded. The last form was completed 47 days after the consent to participate documents were distributed.

The Classroom Life Instrument – Teacher Perception Survey was adapted from a previously published survey (Johnson & Johnson, 2002) in which various aspects of cooperative learning were measured. The aspects measured were: student academic support, cooperation, positive goal interdependence, and individualistic learning. The previously published instrument had to be adapted because the instrument in the previously published study was designed to be completed by students. The survey in the current study was to be completed by teachers, so the researcher altered the statements within the survey to be focused on teacher perceptions. For example, an original survey item from the published survey was “Other students in this class want me to do my best school work” (p. 182). The statement was altered for the current study to be teacher-focused: “I believed that students in my classes want each other to do their best school work.”

The researcher used particular subscales from the original instrument. These subscales represented a sufficient picture of teachers’ perceptions of cooperative learning in the classroom without making the overall survey so long that it would impact teachers’ desire to complete it. The validity of the survey comes from it being based on the work of Johnson et al. (1983). To determine reliability, Cronbach’s alpha was calculated for these subscales and reported in its publication (Johnson & Johnson, 2002): student academic support was .67, cooperation was .83, positive goal interdependence was .61, class cohesion was .51, and individualistic learning was .8.

The researcher designed the Instructional Coaching – Teacher Perception Survey for the current study. The survey was based on the work of Knight (2007) and measured the degree to which a teacher felt that his or her instructional coach exhibited each of the

partnership principles of instructional coaching. No existing survey instruments that measured the seven partnership principles was available (J. Knight, personal communication, February 8, 2016). The current study served as a pilot for the Instructional Coaching – Teacher Perception Survey. Internal reliability was calculated among the seven partnership principles from the results of the 38 participants. The Cronbach’s Alpha score was found to be .905, showing strong internal reliability.

#### Analytical Methods

The data were collected via one Google Form that contained the questionnaire (see Appendix A) and both surveys (see Appendices B and C). Data analyses were performed using SPSS version 16.

The first research question in the current study was: To what degree are the seven partnership principles of instructional coaching present in the coaching relationship? Descriptive statistics were used to analyze the seven partnership principles (equality, choice, voice, dialogue, reflection, praxis, and reciprocity) individually and in aggregate. Measures of central tendency were reported for all of the participants. Tables and graphs displayed teachers’ perceptions of instructional coaching with respect to age, gender, and years of experience in teaching. These tables will be presented in Chapter IV.

The second research question in the current study was: What relationship exists between the reported use of the partnership principles of instructional coaching and cooperative learning in the classroom? A Spearman correlation was performed for each of the measures on the cooperative learning survey (student academic support, cooperation, positive goal interdependence, class cohesion, and individualistic learning) and the partnership principles of instructional coaching (equality, choice, voice, dialogue,

reflection, praxis, and reciprocity). A Pearson product-moment correlation was performed between the measures on the cooperative learning survey and the average coaching score. Results were displayed in tables. These tables will be presented in Chapter IV.

The third research question in the current study was: How does a teacher's use of cooperative learning differ as a factor of instructional coaching use? Independent samples *t*-tests were used to analyze the Likert-scaled data. The question was answered by analyzing the data in three different ways. The first way was by comparing the participants who used their instructional coach as a cooperative learning coach less than 50% of the time and more than 50% of the time. The various measures of perceived use of cooperative learning (student academic support, cooperation, positive goal interdependence, class cohesion, and individualistic learning) were compared. The second analysis was performed by comparing teachers who, given more availability, would have used their instructional coach more. The same measures of cooperative learning were compared between the two groups. The third analysis compared the difference between those teachers who would have used their instructional coach more if the coach had more time. The same measures of cooperative learning were compared. For any statistically significant results, Hochberg's corrections were applied to account for familywise errors. Results were displayed in tables.

### Limitations

The researcher identified numerous possible limitations in the current study. First, the researcher was employed as a cooperative learning trainer and instructional coach in the district studied. Most, if not all, of the participants knew the researcher personally, and this fact might have influenced their responses on the survey.

Second, participation was voluntary and did not necessarily represent a diverse cross-section of the pool of participants. Some teachers, particularly non-tenured teachers, may have been concerned about the confidentiality of the results. If teachers had negative views of instructional coaching or cooperative learning, they may not have honestly reported those views, or may not have participated in the study.

Third, the cooperative learning survey was based on a survey designed to measure the perceptions of students in a particular class. It was rewritten for the current study to measure teacher perceptions about his or her students in all class periods. This change may have affected the reliability of the survey.

Fourth, questions six and nine on the questionnaire (see Appendix A) should have been asked differently. As they were written, participants reported the time in response to a multiple-choice question. The data would have been easier to analyze if the questions had asked the participants to enter numerical data and thereby may have shown different results.

Finally, there was no existing survey of Knight's (2007) partnership principles of instructional coaching. The researcher's survey was designed using definitions from Knight's text. The survey was valid based upon its source material, but an expanded version may be more useful in determining teachers' perceptions of instructional coaching.

### Summary

This chapter explained the methodology of the current study. The data collection and methods of data analysis were described in detail. The next chapter will show the

results of the questionnaire and surveys, examine the findings of the data analysis, and provide implications as well as recommendations for future research opportunities.

## CHAPTER IV

### FINDINGS AND CONCLUSIONS

#### Introduction

Understanding the impact of instructional coaching on the use of cooperative learning in the secondary classroom is important, both to instructional coaches and to the teachers they serve. Little research has been done to clarify how coaches interact with teachers using the Knight (2007) model of instructional coaching or how instructional coaches support the use of cooperative learning. By analyzing these data that were collected in one questionnaire and two surveys, the relationship between instructional coaching and the use of cooperative learning can better be understood. Understanding these data will allow instructional coaches to refine their practice and better serve teachers.

The first research question, to what degree are the seven partnership principles of instructional coaching present in the coaching relationship? was analyzed using measures of central tendency. The second research question, what relationship exists between the reported use of the partnership principles of instructional coaching and cooperative learning in the classroom? was analyzed using Pearson product moment correlation and Spearman correlations. The third research question, how does a teacher's use of cooperative learning differ as a factor of instructional coaching? was analyzed using

independent samples *t*-test and statistically significant results were further analyzed using Hochberg corrections to correct for familywise errors.

## Findings

### Research Question #1

The first research question was: To what degree are the seven partnership principles of instructional coaching present in the coaching relationship? To collect these data, a questionnaire was administered to teachers which had them rate their perceptions of how their instructional coaches exhibited the seven partnership principles of instructional coaching. The survey items were Likert-scaled with 1 being *Strongly Disagree* and 5 being *Strongly Agree*. Measures of central tendency were calculated for these data. See Table 1 for the representation of these data.

Table 1

#### *Partnership Principle Perception Measures of Central Tendency*

	<u>Mean</u>	<u>Median</u>	<u>Mode</u>
Equality	4.74	5.00	5
Choice	4.76	5.00	5
Voice	4.79	5.00	5
Dialogue	4.82	5.00	5
Reflection	4.58	5.00	5
Praxis	4.63	5.00	5
Reciprocity	4.55	5.00	5
Avg. Coaching Score	4.70	5.00	5.00

The data in Table 1 indicate that teachers perceived, on average, that their instructional coaches exhibited the partnership principles most or all the time. The median and mode of all seven principles show a ceiling effect. The means were all above four, falling between *Agree* and *Strongly Agree*.

#### Research Question #2

The second research question was: What relationship exists between the reported use of the partnership principles of instructional coaching and cooperative learning in the classroom? To analyze these data, two surveys were used. The first survey was the same instructional coaching survey from the previous question. The second survey measured teacher perception of cooperative learning practice via multiple Likert-scaled questions per measure. Each element was rated from 1, *False All of the Time*, to 5, *True All of the Time*. The data sets were then correlated to determine relationships. There were fewer than 15 possible responses for the instructional coaching partnership principles, so Spearman correlations were performed. See Table 2 for a representation of these data. A Pearson Product Moment correlation was performed for the measures of cooperative learning and the average coaching score. See Table 3 for a representation of these data.

Table 2

*Spearman Correlation for Partnership Principles and Measures of Cooperative Learning Use*

Partnership Principles	Measures of Cooperative Learning Use				
	Student Academic Support	Cooperation	Positive Goal Inter-dependence	Cohesion	Individualistic Learning
Equality	.22	.32*	.21	-.13	-.17
Choice	.35*	.41*	.25	.01	-.35*
Voice	.15	.19	.04	-.20	-.16
Dialogue	.15	.38*	.22	-.05	-.22
Reflection	.03	.24	.23	-.25	-.05
Praxis	.22	.35*	.34*	-.05	-.05
Reciprocity	.17	.35*	.42*	-.09	-.09

\* =  $p < .05$

The data in Table 2 show that there were numerous statistically significant correlations between various aspects of cooperative learning and instructional coaching. The relationship between equality and cooperation was statistically significant,  $r_s(38) = .32, p = .05$ . The relationship between choice and student academic support was statistically significant,  $r_s(38) = .35, p = .03$ . The relationship between choice and cooperation was statistically significant,  $r_s(38) = .41, p = .01$ . The relationship between choice and individualistic learning was statistically significant,  $r_s(38) = -.35, p = .03$ . The relationship between dialogue and cooperation was statistically significant,  $r_s(38) = .38, p = .02$ . The relationship between praxis and cooperation was statistically significant,  $r_s(38) = .35, p = .03$ . The relationship between reciprocity and cooperation was statistically

significant,  $r_s(38) = .35, p = .03$ . The relationship between reciprocity and positive goal interdependence was statistically significant,  $r_s(38) = .42, p = .01$ .

Table 3

*Pearson Correlation for Average Coaching Score and Measures of Cooperative Learning Use*

	Measures of Cooperative Learning Use				
	Student Academic Support	Cooperation	Positive Goal Interdependence	Cohesion	Individualistic Learning
Average Coaching Score	.20	.30*	.27	-.12	-.14

\* =  $p < .1$

The data in Table 3 show that cooperation has a moderate correlation to the average coaching score. This correlation was not statistically significant,  $r(38) = .30, p = .07$ .

### Research Question #3

The third research question was: How does a teacher's use of cooperative learning differ as a factor of instructional coaching? This question was analyzed by independent samples *t*-tests in three different ways. Each test that was performed was to compare groups to see if there were any factor of coaching that changed teachers' perceptions of cooperative learning use. The first test was performed to compare teachers who reported that they used their instructional coach for cooperative learning less than half the time with those who reported using their instructional coach for cooperative learning half the time and more. See Table 4 for a representation of these data. The second test was performed to compare teachers who reported that if they had more time, they would have or would have not used their coach more. See Tables 5 and 6 for representations of these

data. The third test was performed to compare teachers who reported that if the instructional coach had more time, they would have used the coach more. See Table 7 for a representation of these data.

Table 4

*t-test Results of Measuring Cooperative Learning Use for High and Low Usage of an Instructional Coach*

Measures of Cooperative Learning	Low Usage		High Usage		<i>t-test</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Student Academic Support	3.60	.58	3.93	.62	-1.50
Cooperation	4.07	.41	4.35	.47	-1.80
Positive Goal Interdependence	3.13	.66	3.42	.77	-1.12
Cohesion	3.5	.57	3.66	.59	-.66
Individualistic Learning	2.63	.60	2.33	.24	1.23

*Note.* Low Usage is below 50% of coaching time; high usage is 50% coaching time and above

The data in Table 4 show that there were no statistically significant differences between the high and low usage groups.

The next comparison was between groups of teachers that, if the instructional coach had more availability, would have used their instructional coach more. These results are reported in Table 5.

Table 5

*t*-test Results for Measures of Cooperative Learning Use Compared to If Teacher Had More Availability

Measures of Cooperative Learning	Would Not Use Coach		Would Use Coach		<i>t</i> -test
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Student Academic Support	3.27	.61	3.85	.52	-2.97*
Cooperation	3.89	.50	4.24	.38	-2.34*
Positive Goal Interdependence	2.91	.52	3.33	.73	-1.73**
Cohesion	3.40	.66	3.62	.53	-1.10
Individualistic Learning	2.77	.74	2.46	.60	1.336

\* =  $p < .05$ . \*\* =  $p < .1$

There were two statistically significant differences. The result of the *t*-test of student academic support compared the difference between groups of teachers that would and would not have used their coach more was statistically significant,  $t(36) = -2.97$ ,  $p = .01$ ,  $d = 1.02$ . The result of the *t*-test of cooperation compared the difference between groups of teachers that would and would not have used their coach more was statistically significant,  $t(36) = -2.34$ ,  $p = .03$ ,  $d = .79$ . The result of the *t*-test of positive goal interdependence compared the difference between groups of teachers that would and would not have used their coach more was not statistically significant,  $t(36) = -1.73$ ,  $p = .09$ ,  $d = .66$ . The results were tested further using the Hochberg correction (see Table 6).

Table 6

*Hochberg Correction for t-test Results for Measures of Cooperative Learning Use Compared to If Teacher Had More Availability*

Measures of Cooperative Learning	Unadjusted <i>p</i> value	Hochberg Threshold	Hochberg Correction
Student Academic Support	.005	.01	Significant
Cooperation	.025	.0125	
Positive Goal Interdependence	.058	.017	
Individualistic Learning	.190	.025	
Cohesion	.280	.05	

*Note.* The blank areas indicate values that were not statistically significant.

After the Hochberg correction, one statistically significant difference was found. Teachers, given more availability that would have used their coach more, perceived that their students cared about the academic success of their peers more. Both cooperation and positive goal interdependence were not statistically significant.

Table 7

*t-test Results for Measures of Cooperative Learning Use Compared to If Instructional Coach Had More Availability*

Measures of Cooperative Learning	Would Not Use Coach		Would Use Coach		<i>t-test</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Student Academic Support	3.610	.64	3.76	.57	-.77
Cooperation	4.18	.54	4.09	.30	.64
Positive Goal Interdependence	3.14	.74	3.28	.65	.55
Cohesion	3.51	.63	3.61	.50	-.54
Individualistic Learning	2.44	.68	2.68	.61	-1.14

The data in Table 7 show that there were no statistically significant differences between the cooperative learning perceptions of teachers based on whether they would have used an instructional coach more whether they had more time.

### Conclusions

#### Research Question One

The first research question of the current study investigated the relationship between instructional coaches and the teachers who they coach. The data showed the results of teacher surveys regarding the presence of the seven partnership principles in an instructional coaching relationship. All seven partnership principles had medians and modes of five, the maximum score, as well as means well above four. Teachers had a very high opinion of their instructional coach's fidelity to the partnership principles as was shown by the observed ceiling effect.

Generally, teachers perceived that their instructional coaches were exemplifying the Knight (2007) model of instructional coaching to a very high degree. The data from the survey about the seven partnership principles showed that teachers felt that the instructional coaches were practicing each principle most or all the time. In this respect, the quality of coaching that the teachers were receiving was perceived to be high.

#### Research Question Two

The second research question of the current study investigated the relationship between the teacher's perceived use of cooperative learning in the classroom and the instructional coach's adherence to the seven partnership principles. Various moderate correlations were found.

Instructional coaches have served in a variety of roles. Examples of these roles are as technology coaches (Kanaya et al., 2005; Sugar 2005), mentors (Kang, 2011; Koballa et al., 2008; Lyne, 2013), or language coaches (Roberts et al., 2014). The varied natures of these roles and the success that coaches have found in these roles suggest that choice is an important factor in the coaching of other research-based instructional strategies. Choice appeared to be an important factor in influencing the use and perceived value of cooperative learning. When a teacher felt that his or her instructional coach allowed him or her to choose the parameters of the coaching experience, cooperative learning was valued and used to a higher degree.

Reciprocity in the coaching relationship also appeared to be an important factor in the use of cooperative learning. Teachers who perceived the coaching relationship to be a meeting of equals were using cooperative learning to a higher degree; specifically, the teachers valued cooperative learning and perceived positive interdependence between

their students. When a teacher and a coach cooperated to a high degree, the students of the teacher also cooperated to a high degree. In addition, when a teacher and a coach cooperated to a higher degree, the students of the teacher relied on each other to achieve their tasks to a higher degree.

Five of the seven partnership principles had moderate but statistically significant correlations to cooperation. A coach's strong adherence to many of the partnership principles of coaching showed that the teacher's students internalized the cooperative intent of the class. Students wanted to work together when their teacher and coach had a high functioning coaching relationship.

Praxis, putting knowledge into action, and reciprocity, the perception that coaches and teachers learn from each other, were correlated to positive goal interdependence, or the perception that students must work together to accomplish their tasks, in statistically significant ways. When the instructional coach and teacher worked together to implement the lessons of cooperative learning, the teacher's lessons were structured in such ways that required their students to work cooperatively.

### Research Question Three

The third research question of the current study investigated differences in teachers' use of cooperative learning based upon the way that they used their instructional coach. Teachers were grouped by their own availability in one analysis, and the instructional coach's availability in the other analysis. Teachers were also grouped by the amount of time that they used their instructional coach for cooperative learning in a third analysis. A difference was found between teachers who would have used their coach more if the teacher had more availability. Teachers who felt limited in their own free time

to meet with their coach had students who cared about each other's academic success more than the students of those who did not feel that they were constrained by availability.

### Implications and Recommendations

The current study highlighted various aspects of this instructional coaching program and illustrated numerous implications for this, and other, school districts. The coaching program in the district was perceived to be strong. Implementation of the Knight (2007) model of instructional coaching can be implemented successfully for a larger number of teachers. Administrators can be confident that by devoting time and resources to training instructional coaches in the Knight model, that teachers will be aware of the coaches' demonstrations of the partnership principles.

Specifically, the principle of choice seemed to be important in the coaching relationship. Instructional coaches and administrators need to be vigilant in maintaining teachers' choices on what topic or strategy they want to be coached. There may be temptation to have coaches push certain initiatives, but teachers should be given latitude in what methodologies or projects they pursue in the coaching process.

Furthermore, instructional coaches should maintain a presence in the classroom to a large extent. Exhibiting praxis is important in that instructional coaches are seen to have credibility in the eyes of teachers. The coaches can demonstrate their knowledge of instructional methodologies and refine their own practice. In addition, continuing to teach allows coaches to implement strategies and ideas that they have learned from the teachers whom they coach. Reciprocal learning must be maintained to ensure the fidelity of the instructional coaching program.

Teachers desired time to work with their instructional coaches. Administrators should allow for flexible scheduling of teachers and coaches. Substitute teachers should be made available to fill in for teachers and coaches so these dyads can have extended, in-depth meetings. Teachers should make working with an instructional coach a priority. Instructional coaches should be creative in the times and venues of meetings to make the process more convenient for teachers. All stakeholders should make convenient meetings between teacher and coach a priority.

The data from the current study show that coaches are perceived to be strong in the use of the seven partnership principles of cooperative learning. The survey was designed for the current study and has not been used outside of the current study. For a more nuanced understanding of teachers' perceptions of their instructional coach's adherence to Knight's (2007) coaching framework, a more robust survey should be created. By collecting more granular data, the relationship between instructional coach and teacher could be better understood.

There were several correlations between the partnership principles and the measures of cooperative learning in the classroom, but the study was confined to the practice of one school district. A more comprehensive study should be undertaken to see if these relationships hold when institutional and programmatic differences are considered. Replicating the study in other school districts where instructional coaching and cooperative learning are practiced would provide a much more detailed and universal picture of the relationship between the two.

Teachers who reported a decreased sense of choice in the coaching relationship also reported that their students preferred to work individually, as opposed to working in

a cooperative group. As the current study was performed, it is not clear what contributed to the teachers' low perceptions of choice. A more detailed instructional coaching survey could clarify these results, and possibly suggest other variables that would account for this correlation.

All the instructional coaches in the study had received introductory cooperative learning training. Beyond that information, the current study did not connect the instructional coach's familiarity with cooperative learning to the teacher's perception of use of cooperative learning. An area of further research should be conducted to connect the individual experiences with cooperative learning of each instructional coach with those teachers whom they coach.

Finally, the current study found relationships between instructional coaching and cooperative learning. Cooperative learning is one of many different research-based instructional strategies. It is reasonable to assume that those connections would hold for other research-based instructional strategies, but cannot be confirmed without further study. Would these same connections hold for other research-based instructional strategies? Similar studies should be conducted to determine if these data are universal.

The current study sought to clarify the relationship between instructional coaching and the use of cooperative learning in secondary classrooms. Hopefully, by showing these in-depth analyses, instructional coaches will better understand the work that they do. A deeper understanding of the nature of instructional coaching and its relationship to the use of cooperative learning will improve classroom instruction and improve student learning.

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Appendix A  
Questionnaire

## Questionnaire

1. What is your age?
2. What is your gender?
3. How many years have you been teaching?
4. Please check all of the cooperative learning training that you have participated in?
  - a. Brown Book (Introductory)
  - b. Green Book (Advanced)
  - c. Nuts & Bolts (Refresher)
  - d. Red Book (Controversy)
  - e. Cooperative Technology
  - f. Cooperative Assessment
  - g. None.
5. When did you most recently complete Brown Book training?
  - a. I haven't completed Brown Book training.
  - b. Within the last 3 months.
  - c. 3-6 months ago
  - d. 6-12 months ago
  - e. 12-18 months ago
  - f. 18-24 months ago
  - g. More than 24 months ago

6. Approximately how many hours have you worked with an instructional coach in the past year?
  - a. 0 hours
  - b. 1-3 hours
  - c. 3-5 hours
  - d. 5-10 hours
  - e. More than 10 hours
7. If you had more availability, would you have sought out more coaching?
  - a. Yes
  - b. No
8. If your coach had more availability, would you have sought out more coaching?
  - a. Yes
  - b. No
9. Approximately what percentage of the time with you worked with your instructional coach was dedicated to cooperative learning?
  - a. 0%
  - b. Less than 25%
  - c. 25%-50%
  - d. 50%-75%
  - e. More than 75%

10. Overall, how much class time in an average week is devoted to cooperative learning?

- a. 0%
- b. Less than 25%
- c. 25%-50%
- d. 50%-75%
- e. More than 75%

11. During the past 5 school days, in how many class periods have you used cooperative lessons?

- a. 0
- b. 1-2
- c. 3-5
- d. 6-8
- e. More than 8

Appendix B

Classroom Life Instrument – Teacher Perception Survey

## **Classroom Life Instrument – Teacher Perception Survey**

Please indicate your agreement with each of the following statements.

1 = False all of the time

2 = False some of the time

3 = Neither false nor true

4 = True some of the time

5 = True all of the time

1. I believe that students in my classes want each other do their best school work
2. I believe that students have best friends in my classes.
3. In my classes, the other students like to help each other learn.
4. When students work together in small groups, they try to make sure that everyone in the group learns the assigned material.
5. In my classes it is important that students learn things by themselves.
6. I believe that students like to work with each other in my classes.
7. When students work together in small groups, their job is not done until everyone in the group has completed the assignment.
8. My students spend a lot of time working at our own desks.
9. I believe that my students care about how much they all learn.
10. When my students work together in small groups, they all receive bonus points if everyone scores above a certain criterion.
11. I believe that in my classes, all students are friends.
12. I believe that my students want each other to come to class every day.
13. In my classes, students do not talk to other students when they work.

14. In my classes, students work by themselves.
15. I believe that my students are often lonely in class.
16. I believe that all the students in my classes know each other well.
17. When my students work together in small groups, they have to share materials to complete the assignment.
18. I believe that my students like to share their ideas and materials with each other.
19. I believe that it bothers my students me when they have to do to it all by themselves.
20. My students work better when they do it all by themselves.
21. When my students work together in small groups, everyone's ideas are needed if they are going to be successful.
22. I believe that my students do not like working with other students in school.
23. My students can learn important things from other students.
24. I believe that my students like to help other students learn.
25. I believe that working in small groups is better than working alone.
26. I believe that my students try to share their ideas and materials with other students when they think it will help them.
27. When my students work together in small groups, they have to find out what everyone else knows if they are going to be able to do the assignment.
28. It is a good idea for students to help each other learn.
29. I believe that my students like to cooperate with other students.
30. I believe that my students like to work with other students.
31. My students do better work when they work alone.

32. I believe that my students learn a lot of important things from each other.

33. I believe that my students would rather work on school work alone than with other students.

**Key**

*Student Academic Support: 1, 3, 9, 12*

*Cooperation: 18, 23, 24, 26, 28, 29, 32*

*Positive Goal Interdependence: 4, 7, 10, 17, 21, 27*

*Cohesion: 2, 6, 11, 15\*, 16*

*Individualistic Learning: 5, 8, 13, 14, 19\*, 20, 22, 25\*, 30\*, 31, 33*

*\* = Reverse Scale*

Johnson, D. W., & Johnson, R. T. (2002). *Meaningful assessment: A manageable and cooperative process*. Edina, MN: Interaction Book Company.

Appendix C

Instructional Coaching – Teacher Perception Survey

## **Instructional Coaching – Teacher Perception Survey**

*Instructional coaching has seven different principles. Please read the description of each principle and rate the degree to which you believe that your coach practiced each principle.*

Please indicate your agreement with each of the following statements.

1 = Strongly Disagree

2 = Disagree

3 = Neutral

4 = Agree

5 = Strongly Agree

*Equality:* “Partnership involves relationships between equals. Thus, in a partnership each person’s thoughts and beliefs are held to be valuable” (Knight, 2007, p. 24).

1. My coach exhibited the principle of equality.

*Choice:* When working with an instructional coach, the topics discussed are determined by the teacher being coached (Knight, 2007).

2. My coach exhibited the principle of choice.

*Voice:* In an instructional coaching relationship, all points of view are valued. The coach and the teacher each speak with authority, and each is listened to by the other (Knight, 2007).

3. My coach exhibited the principle of voice.

*Dialogue:* Instructional coaches and teachers engage in authentic dialogue in the process of coaching. “Partners engage in conversation that encourages others to speak

their minds, and they try their best to listen authentically and to fully understand what others say,” (Knight, 2007, p.25).

4. My coach exhibited the principle of dialogue.

*Reflection:* Instructional coaching provides an opportunity for teachers to look at their practice in and out of the classroom. The coach asks simple and directed questions which require the teacher to look inward and analyze his or her choices and actions (Knight, 2007).

5. My coach exhibited the principle of reflection.

*Praxis:* Praxis is the action of making theoretical or philosophical lessons practical. An instructional coach will work with teachers to put ideas into practice (Knight, 2007).

6. My coach exhibited the principle of praxis.

*Reciprocity:* In an instructional coaching relationship, the coach and the teacher learn and share ideas with each other. Coaching is not a dissemination of information from the coach to the teacher (Knight, 2007).

7. My coach exhibited the principle of reciprocity.

Knight, J. (2007). *Instructional coaching: A partnership approach to improving instruction*. Thousand Oaks, CA: Corwin.

Appendix D  
Introductory Letter

Dear Colleague,

I need your help! I am a doctoral candidate at Olivet Nazarene University, and I am studying the relationship between instructional coaching and the use of cooperative learning. I have a questionnaire and two surveys to measure these relationships.

You are being asked to participate because you were employed as a teacher in [REDACTED] [REDACTED] both this school year and last school year.

You are under absolutely NO OBLIGATION to participate, but your help will allow instructional coaches here in [REDACTED], and in other districts, to better assist teachers.

If you choose to participate, you will be asked to follow a few steps.

1. You will need to sign the attached consent form in the presence of a witness.
2. You will need to return it to me within one week of receiving this letter. You can return the forms:
  - a. to me in person,
  - b. in my school mailbox at [REDACTED] in the sealed box,
  - c. in Greg [REDACTED]'s mailbox at [REDACTED] in the sealed box, or
  - d. in Laura [REDACTED]'s mailbox at [REDACTED] in the sealed box.
3. After I have collected all of the signed consent forms, I will email a link to a Google Form. It will take you about 15 minutes to complete. You will have one week to complete this survey.

4. Once data has been collected, a copy of your informed consent form will be returned to you.

Thank you in advance for all of your help. If you have any questions, please email me (aroubitchek@[REDACTED]) or call me ([REDACTED]).

Gratefully,

Adam Roubitchek

Appendix E

Email to Participants

Dear Colleague,

Thank you for volunteering to participate in my research study. Simply click on the link below and answer the questions as best you can. Remember, answer these questions based on the **2015-2016 school year**.

Please answer these questions before one week from today.

If you have any questions or concerns, please email me (aroubitchek@[REDACTED]) or call ([REDACTED]).

Thank you for your help!

Adam