THE RELATIONSHIP OF TEACHER PARTICIPATION IN PROFESSIONAL

LEARNING COMMUNITIES TO THE PERCEPTIONS OF REFLECTIVE

PRACTICES OF ELEMENTARY SCHOOL TEACHERS

by

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ABSTRACT

The purpose of this study was to examine relationships between teacher involvement in professional learning communities (PLC) and their levels of reflections about their professional practices. Teacher reflection levels were studied in two matched groups: one group participated in PLCs between the period of August 2009 and August 2011 and the other group was comprised of teachers not participating in PLCs. The study sought to answer the following research questions: (1) What is the make-up of professional learning communities in public elementary schools within the North Alabama area? (2) Are there differences between the reflective practices of teachers participating in professional learning communities and those not participating in professional learning communities? (3) Are there differences in reflective practices of teachers in a land-based professional learning community as compared to reflection of teachers in a technology-based professional learning community, and of those in a combined professional learning community?

The Reflective, Ethical, Moral Assessment Survey (REMAS, Arredondo Rucinski & Bauch, 2006) was used to assess teacher perceptions of their reflective practices in their work environment. Five hundred twelve teachers from north Alabama schools were surveyed; 293 teachers having participated in a professional learning community within the two years of 2009 through 2011; and 219 not having participated in a professional learning community. The data were then compared using analysis of variance. The results revealed more in-depth reflection of teachers participating in specific types of PLC than those with no PLC participation. Teachers having participated in professional learning communities consisting of either face-to-face

communication or combined face-to-face and technology-based communications had statistically

higher levels of reflection in the Reflective and Ethical Priority domains ($p < .005$) than those

teachers participating in technology-based professional learning communities or no professional

learning community.

This study provides administrators with insight into the umbrella value of PLC

participation and some indications of the possible influences of various types of approaches that

will be most beneficial to facilitate reflective practice among their faculties.

DEDICATION

This research project is lovingly dedicated to my family: My parents who have provided their constant support of my educational goals; to my husband, Michael who spent countless hours caring for our children, listening to me talk through my research, and encouraging me to continue; to my amazing children, Jane Hollis and Owan, who waited patiently on mommy to finish reading and typing before getting up to get the milk, say the prayers, or watch the performance; to Mr. and Mrs. Poovey who treat me as their own daughter and so often help our family so I can work; and to my siblings Tracy and Richard who always support me. I am truly grateful for your love, kindness, care, patience, and ever listening ears. This journey would never have been completed without every experience each of you has provided me along the way:

Sounds and Smells of a Mommy's Dissertation

Little girls screaming
Little boys laughing
Television talking
Drums playing
Music blaring
Men talking
Dishwasher whirring
Clothes dryer turning

Bread rising
Cookies baking
Dogs barking

MOMMY!

Working
Thinking
Writing
Surviving
Finishing

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blessing in my life. You have taught me much through your grace and endurance, your never ending friendship, and constant encouragement.

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CHAPTER 1

INTRODUCTION

John Dewey (1933) said, "The person who really thinks learns quite as much from his

failures as from his successes" (p. 54). Dewey understood that to improve the self, a person must

reflect and learn from his or her actions. Reflection is a necessary practice for educators today.

Constantly changing regulations and guidelines for education in the United States requires

educators to be aware of change and to know how to teach students to meet identified guidelines.

Advocates of professional learning communities (PLCs) argue that PLCs have been created to

provide teachers opportunities for self-reflection, to improve teacher practices, and to learn to

better meet the needs of students (Mangin, 2007). According to Starnes, Paris, and Stevens

(1999), building a reflective environment increases the transfer of knowledge and enables the

teachers and learners to engage in rigorous, ongoing assessment and evaluation of their practices.

Through participation in professional learning communities, teachers and administration are able

to reflect on and discuss teaching practices therefore making meaningful improvement in work.

Business leaders, with their predictions about the economic future of American society,

have influenced public schools over the last two centuries (Miller, 2005). The educational system

that has arisen from the influence of these factors is one using a top-down management model of

education where a few do the thinking for the many (Marshall, Allen, Sears, Roberts, &

Schubert, 2007). This factory model of education perceived students as products to be passed

from teacher to teacher until their level of education met the requirements of successfully

assisting the industrial community (Nair & Fielding, 2007). This approach required teachers to

simply carry out the directives of their supervisors and those supervisors to carry out the decisions of the bosses above them (Marshall et al., 2007).

Within the past 20 to 39 years, on the national stage corporations began to assert their power to push for federal enforcement of the standards and testing proposed in the *A Nation at Risk* report (Spring, 2005). This approach to school reform has been used in many public schools; however, education in the late 20th century has begun to move in a new direction. Education has rapidly become more collaborative and inquiry based, with the expectation that every student will be an active part of a global community (Spring, 2005).

The rise of professional learning communities (PLCs) has offered educators methods to communicate and collaborate with their peers, provide opportunities for the development of shared understandings, developed challenging and focused learning opportunities for students, and scheduled times for individual and collaborative reflection that may improve teacher performance and student success (Holland, 2005). According to McLaughlin (2006, as cited in Schmoker, 2006) "the most promising strategy for sustained school improvement is building the capacity of school personnel to function as a professional learning community" (p. 424). Fullan (2006) described how instructional systems should be developed and refined through teacher input and interaction. According to Newman and Wehlage (1995, as cited in DuFour, 1998), if schools are to enhance their organizational capacity to boost student learning, they must work on building professional communities that are characterized by shared purpose, collaborative activity, and collective responsibility among the staff (Fullan & Hargreaves, 1991). Collaborative interactions are meant to guide teachers to better prepare students to master content standards, graduate, attain gainful employment, and compete in a global society (Darling-Hammond, 1996). Guskey (2003) asserted that for teachers to create and maintain this high level and quality of

education, they should be provided with opportunities for continuous growth. Progress and change in education and the success of students is dependent on the professional growth of teachers. Hord (1997) argued that the importance of teacher development is paramount to maintaining school change. "Unless teachers become more effective at what they're doing, schools will not improve" (p. 34). According to Hord, implementation of PLCs in schools initiates a framework for creating continuous, effective, professional development for teachers and administrators. Professional learning communities create a systematic open process that encourages change within the educational environment by engaging teachers and administration in the process of learning (Andrews & Lewis, 2002; Huffman & Jacobson, 2003).

According to Marzano (2003), people in a learning community question, seek new methods, test those methods, and reflect on the results. The scientific method has been used for many years as presented by Dewey in *How We Think* (1933, cited by Hoy and Miskel, 2008, p. 7). The current practice of putting groups of educators with similar interests together to create PLCs has enhanced the purpose and results of Dewey's approach. Research on effective teaching over the past two decades has shown that effective practice is linked to inquiry, reflection, and continued professional development (Harris, 1998). According to these authors, teachers can gain a better understanding of their own teaching styles through reflective practice and collaboration with other educators.

Statement of the Problem

Reflecting on one's action is vital to maintaining the meaning of work and becoming professional (Collay, Dunlap, Enloe, & Gagnon, Jr., 1998). Through participation in professional learning communities, teachers and administrators are able to collaborate, discuss, and reflect as

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members of a group, and also individually on teaching practices. PLCs exist in a variety of types, but one could raise the question as to whether they affect the perceptions of teachers as reflective professionals. The interest in PLCs in the past two decades has resulted in some research focused particularly on the impact of their implementation on student learning. However, relatively little attention has been focused upon the impact of PLCs on the continuing professional development of the teacher specifically on the development of teachers as reflective professionals. This study focused research on the possibility of a relationship between teacher participation in a PLC and the development of teachers as reflective professionals.

Research has been completed to evaluate some of the benefits of professional learning communities. Recent literature describes the role of PLCs in schools, their varied designs, and the effects of these collaborations on the success of students. Little research is available to determine the effects of professional learning communities on how teachers perceive their own reflective practices while participating in a PLC. The findings of this study provide insight into the effectiveness of professional learning communities and the types of professional learning communities that lead to the development of teachers as reflective professionals.

Purpose of the Study

The purpose of the study was to examine the influence of professional learning communities (PLCs) on teachers' perceived levels of self-reflection in public elementary schools in Alabama. This study identifies elementary teachers as teaching students in public schools in Grades Kindergarten through 6 within an elementary school setting.

Hinkle, Wiersma, and Jurs (2003) described a quantitative variable, "as measured by ratio scales or intervals" (p. 11). This study aimed to provide understanding of the relationship

between PLCs and reflective practices of those teachers who are participating in PLCs by use of quantitative variable analysis. The Reflective, Ethical, and Moral Assessment Survey (REMAS, Arredondo Rucinski & Bauch, 2006) was provided to elementary level teachers in the north Alabama area. This survey collected data about how teachers perceived their own reflective practice after participating in a PLC. The data also provided information on how teachers not participating in a PLC perceived their own reflective practices. Demographic questions were added to the survey. The additional demographic questions collected data about the race, gender, age, grade level taught, years of experience, and the types of PLCs in which the teacher was active within the last two years (land-based, technology-based, or combined).

Significance of the Study

The findings from this research study may assist principals and teachers interested in determining the benefits of professional learning communities (PLC) and the type of PLC that facilitates teacher reflection. This information may also assist educators in planning and creating more reflectively beneficial PLCs across schools, school systems, and between schools and systems across the state.

Theoretical Framework

This study is based on the theoretical framework that teachers who participate in professional learning communities engage in more in-depth levels of reflection than that of their non-participating peers. The research study suggested that through interactions encountered in the PLC, teachers gain knowledge and enhance their higher order thinking while advancing their abilities to practice reflection. This theory would explain that with PLCs, better communication

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between teachers exists in schools and school communities, as well as better practices in the classroom. In theory, teachers actively involved in PLCs also serve as role models for students about the type of interactions that facilitate learning higher order thinking skills.

Sociocultural theory, when combined with reflection, may promote high levels of development. Learning is encouraged through collaboration, collegiality, professional dialogue, and constant evaluation (Hord, 1997). Professional learning communities promote these skills, as teachers are encouraged to share thoughts, examples, and to expand their communications to incorporate the ideas of others into their classrooms. Tharp and Gallimore (1988) asserted that higher order functions evolve from social interactions. This viewpoint was initially described by Vygotsky (1934/1986) in his sociocultural theory. His theory claimed that development depends on interaction with people and culture that creates a person's view of the world. These views are passed from one person to another as they strive to understand each other and work together to learn skills (Woolfolk, 2000). Lave and Wenger (1991) expanded on sociocultural theory by saying, "learning is an integral part of a general social practice" (p. 35). Teachers must have opportunities to explore the variety of cultures and worlds of education so they may continue to extend their knowledge and provide the same form of social learning experience to students. Involvement in PLCs provides that opportunity. Like the children Vygotsky initially studied, adults must also have interactions to learn and engage their thinking at higher levels. Vygotsky placed his focus on the connections between people and the sociocultural context in which they act and interact in shared experiences (Crawford, 1996).

"Thinking, particularly reflective thinking, or inquiry, is essential to both teachers' and students learning" (Rogers, 2002, p. 843). Reflection is a necessary skill addressed by Dewey in *How We Think* (1910/1933). Dewey asserted four criteria for reflection: (1) a meaning-making

process; (2) a systematic, rigorous, disciplined way of thinking grounded in scientific methods; (3) needs to happen in a community; and (4) values personal and intellectual growth. Dewey furthered his argument on reflection by saying it is a skill that takes time to do well. In 1983, Schön again presented reflection or reflective practice as a critical process in refining one's skills. Reid and Schön (1996) defined reflection as thoughtfully considering one's own experiences while being challenged by other professionals in the area of the discipline (p. 49). Teachers may participate in collaborative activities but the reflection involved is vital to making connections to the knowledge gained.

The connection of the communication and collaboration of the sociocultural theory described by Vygotsky combined with the power of reflection addressed by John Dewey and Schön reveals a connection worthy of evaluation. This study examined how and whether these two related concepts merge in PLCs to affect teachers' levels of reflection.

Research Methods

The primary purpose of this study was to identify and measure the relationship between Professional Learning Communities limitations and the perceived relationship to teachers' reflections, with participation in different types of PLCs. This research used a quantitative model allowing the researcher to investigate the differences in and between groups surveyed by using an analysis of variance (ANOVA). The Reflective, Ethical and Moral Assessment Survey (REMAS, Arredondo Rucinski & Bauch, 2006) was used to survey elementary public school teachers in north Alabama. Demographic information was added to this survey.

The study results are limited due to the convenience sample, which was limited to K-6 teachers in Regional District 6 as defined by the state of Alabama Board of Education school

districts. The study may not be generalized beyond K-6 teachers in the participating north Alabama schools.

Research Questions

1. What is the make-up of professional learning communities in public elementary schools within the North Alabama area?

2. Are there differences between the reflective practices of teachers participating in professional learning communities and those not participating in professional learning communities?

3. Are there differences in reflective practices of teachers in a land-based professional learning community as compared to reflection of teachers in a technology-based professional learning community, and of those in a combined professional learning community?

Limitations of the Study

The limitations of the study included the following:

1. Survey participants may not have provided honest answers to all questions.

2. Survey participants may not have answered all questions.

Delimitations of the Study

Delimitations of the study may have included the following:

1. The study was a convenience sample limited to K through 6 teachers in the north Alabama area.

2. The study may only be generalized to the K through 6 teachers in the participating schools.

Assumptions

1. The Reflective, Ethical, and Moral Assessment Survey provided a precise instrument to measure the perceived levels of reflection.

2. The teachers who completed the survey taught in grades K-6 in 2010-2011 in Alabama.

3. Teachers participated fully in responding to the survey in a professional manner.

4. The convenience sample may be generalized to the participating schools.

Definitions of Terms

Professional Learning Community--A community in which interaction among teachers is frequent and teachers' actions are governed by shared norms focused on the practice and improvement of teaching and learning (Bryk, Camburn, & Louis, 1999).

Face-to-face Professional Learning Community--Promotes sustained learning of all professionals through face-to-face meetings with the collective purpose of enhancing student learning (Bolam et al., 2005; Louis et al., 1996).

Technological Professional Learning Community--"Synchronous/asynchronous two-way communication between an individual and their peers, to which the individual has some commitment and professional involvement over a period of time" (Leask & Younie, 2001, p. 225).

Combined Professional Learning Communities--Promote and sustain professional learning of all participants with the purpose of enhancing student achievement through face-to-face communication of participants and synchronous and asynchronous two-way communication via online communities (Bolam et al., 2005; Leask & Younie, 2001; Louis et al., 1996).

Metacognition--Thinking about one's own thinking, understanding, or learning (Baer et al., 2004).

Reflection--the process of making meaning that moves a learner through experiences as they gain deeper levels of understanding of the relationships within the experiences and their connections to ideas (Dewey, 1910/1933).

Reflective Thinking--Active, persistent, and careful consideration of any belief or form of knowledge that contains a base support system and further conclusion (Dewey, 1933).

Organization of the Study

Chapter 1 includes an introduction to the study, a statement of the problem, research questions, hypothesis, methodology, significance of the study, and definitions of terms significant to the study.

Chapter 2 includes a review of literature relevant to Professional Learning Communities, types of professional learning communities, and reflection and related terms.

Chapter 3 includes a detailed description of the methodology of the study.

Chapter 4 includes a summary of the methodology used in the study, the data collected, analysis of the data, and study results.

Chapter 5 includes a summary of the results, the conclusions, and implications relating to future research of elementary school teachers participating in professional learning communities.

Researcher Position

Professional learning communities are an active part of my experience as an educator. I have participated in the three types of PLCs addressed by this research study and encountered diverse outcomes from each experience. These experiences and the results I have encountered as a teacher and school administrator have inspired my interest in the study. As a researcher, I understand that an impartial attitude is necessary to draw valid conclusions; however, I recognized that it would be difficult to place my own experiences and opinions aside while completing this research. However, I made special efforts to guard against researcher bias. My experiences as a PLC participant provided me with knowledge that may have influenced and assisted in my analysis of the data received. Quantitative studies return more precise data allowing for less room for researcher bias to devalue the study (Cresswell, 2005). It was my intent that this method assists in limiting my personal experiences as I worked to provide more generalized results.

Summary

This chapter provided an introduction to professional learning communities and the reflection necessary to make them a useful tool in the current education system. Kolb's (1998) restatement of Dewey's (1938) experiential learning cycle addresses reflection; however, the work is set in the context of learning and reaffirms the works of both Dewey and Vygotsky. Moon (2010) reminded the reader that experiential learning occurs through the organization and construction of meaning through observation: "Reflection is presumed to have a primary role in experiential learning" (pp. 19-20). Adults cannot learn from experience without reflection (Burnard, 1991; Pearson & Smith, 1985). Several researchers cited previously established a need

for this study consistent with my personal observations and beliefs that study is warranted to determine whether perceived higher levels of reflection are possible related to participation in a professional learning community.

In this study, teachers' perceptions of levels of reflection after participating in a PLC were compared to those not participating in a PLC. Teacher perceptions were evaluated by administering the REMAS (Arredondo Rucinski & Bauch, 2006). The data were then used to determine whether participating in a PLC is correlated with a teacher's perceived level of reflection. The study further examined whether participating in a specific type of PLC reveals a more advanced level of reflection. The results of the study will be useful in assisting schools and systems in determining whether or not to participate in PLCs, and, if so, what type of PLC may be most beneficial to enhancing teacher reflection on their practices.

CHAPTER 2

LITERATURE REVIEW

Professional learning communities (PLCs) are designed to provide educators productive environments in which to collaborate and communicate. The result of communication and collaboration is often a reflection of one's own thoughts or actions or those of others. PLC groups may encourage teachers to reflect on their teaching practices to facilitate self-improvement in the classroom or school community. The current lack of research and information connecting the concept of PLCs with reflection reveals a need to determine whether connections exist between these two concepts. Preparing an analysis of the literature of professional learning communities, reflection, and reflective practice may reveal how a connection of these two concepts used in combination may affect educational practices. This chapter reviews the literature regarding the attributes that create and support traditional professional learning communities, explores the benefits of technology-based professional learning communities, reviews the literature on reflection, and closes with an analysis of reflection and the professional learning community.

Attributes of Professional Learning Communities

According to Hord (1997), professional learning communities have five attributes that define them: supportive and shared leadership, collective creativity, shared values and vision, supportive conditions, and shared personal practice. These guidelines are supported by the work

of Louis and Marks (1998) as they again affirm the necessity of shared vision and collaboration in productive PLC environments. Looking at these characteristics independently provides the researcher an understanding of the variety of support structures needed to make a PLC viable and functional.

Supportive and shared leadership, according to Hord and Hirsch (2004), is the primary factor in an effective PLC. School change must be initiated through leadership and nurtured throughout the school community. McLaughlin and Talbert (2006) advised that facilitators must be in place throughout the school community to nurture the staff and guide them through learning practices and toward improvement. According to Newman and Wehlage (1995, as cited in Leo & Cowan, 2000), this change will assist in moving schools from fragmented and impersonal bureaucratic organizations toward communities in which people share a common agenda, goals, and collaboration over time. Professional learning communities provide teachers with opportunities to share reflections, knowledge, changing practices, find solutions, and encourage each other (Varney & Vanderweghe, 2006). Faculty members in schools with active PLCs revealed a more participatory leadership style that encourages empowerment of all persons involved in the school community (Gill, 2006). Schools need supportive structures to increase their effectiveness and grow in their knowledge of how students learn (Leo & Cowan, 2000, Louis et al., 1996). Yukl (1998) stated that supportive leadership suggests leadership roles be taken on by all persons within an organization and not simply the administrator or managerial staff. Schools with more participative leadership and support structures may encounter a more collegial community that encourages collaboration and empowerment that may better guide the school toward practices that may improve student achievement. The PLC should be the supporting structure for schools to have continuous transformation through their own internal

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capacity (Morrissey, 2000). Finally, Senge (1990) argued that through teamwork and dispersed leadership, organizations build the capacity to solve problems and make efficient decisions that benefit the organization. Shared leadership in a school community is believed to allow all participants to be an active part of the PLC therefore moving the school forward by challenging the school staff to enhance their learning and the learning of their students. The collective creativity of a learning community has been demonstrated when people from multiple disciplines at all levels collaboratively and continually work together (Louis &Kruse, 1996). According to Morrow (2009), "The collective capacity that is created through the collaborative spirit found in a PLC supports teachers in a continuous cycle of learning" (p. 23). Fullan and Hargreaves (1991) characterized a PLC by shared purpose, collaborative activity, and collective responsibility among the staff therefore focusing on the total school and the total teacher as they relate to the learning of students. Research has shown that collaboration between teachers can be a powerful tool for professional development (www.centerforcsri.org). It is through these collaborations that creative solutions can be found. Through collective creativity, members of a group can develop a larger view of their organization and understand how the parts are interrelated to form the whole organization and how consequences in one area may affect the remaining portions of the organization. According to researchers (Mitchell & Sackney, 2000; Mulford, 1998), participants can see connections of how the organization learns to change. Senge (2000) proposed that organizations found to be sufficiently flexible and adaptable to create change through teamwork and leadership can build the capacity to support sustainable learning communities. The collective creativity of an organization increases its ability to sustain a learning community. Teachers at the Lord Byron School were a positive example of the power of collective creativity (Giles & Hargreaves, 2006). These teachers were excited about opportunities to reach students through

interactions with colleagues, engagement in risks, and experiments in teaching innovatively

(Giles & Hargreaves, 2006). The willingness of these teachers to communicate and elaborate to

establish a learning community extended the strength of the PLC within the school environment.

According to Giles and Hargreaves (2006), it was the commitment to explore the teaching

practices of those within the community and to challenge one's self to be an active part of

collective creativity that makes the PLC successful.

Shared values and vision lead to banding behavior that the staff supported. Rasmussen,

Hopkins, and Fitzpatrick (2004) maintained that, "in contrast to one-shot, stand-alone workshops

or professional developments relegated to a handful of in-service days, schools with excellent

programs make professional development an on-going part of educators daily work" (p. 17).

According to Guskey (2000) and Darling-Hammond (1996), a PLC must establish shared values

and a vision for the future in order to navigate through the changes in education, and to be able to

implement what the members determine are the best practices for the school community. They

said that group practices require "mutual engagement" of the members to provide them a sense

of belonging and shared vision (Weick, 1995; Wenger, 1998). Members of PLCs interact in an

ongoing process to develop their knowledge of a common interest by sharing their individual

resources through dialogue (Wenger, McDermott, & Snyder, 2002).). The high level of trust

facilitated by the shared values and vision of participants encourage honest interaction,

challenging questions, and constructive criticism within the PLC (Wenger et al., 2002). Louis

and Kruse (1996) said individuals in a productive PLC possess a willingness to accept feedback

and to work toward improvement. This statement is confirmed in a research study by Dooner,

Mandzuk, and Clifton (2008), in which teachers revealed that it is difficult for a group to learn to

be openly critical but that when the vision is maintained by the entire group it is understood that feelings may be hurt to continue toward success.

Supportive conditions of PLCs may be physical or personal in nature. Boyd (1992) pointed out that both the physical and human factors are highly interactive, many of them influencing the others. Boyd and Hord (1994) clustered the factors into four overarching functions that help build a context conducive to change and improvement. These factors include reducing staff isolation, increasing staff capacity, providing a caring and productive environment, and improving the quality of the school's programs for students. Hord (1997) wrote, "The most successful schools functioned as professional communities, where teachers helped one another, took collective responsibility for student learning, and worked continuously to improve their teaching practices" (p. 3). The physical factors that have been addressed in research as part of the supportive environment included time to meet and talk, school size and proximity of staff, interdependent teaching roles, communication structures, school autonomy, and teacher empowerment. Supportive structures of a PLC means established guidelines and procedures that will provide time, physical space, physical proximity, and opportunities for communication (Huffman & Hipp, 2003b). The structure of the PLC may sustain it or guide its demise. For example, PLCs with limited supportive structures in participation of members or physical plans slowly divide into smaller PLC groups or deteriorate to a point of extinction (Giles & Hargreaves, 2006).

Teachers need "an environment that values and supports hard work, the acceptance of challenging tasks, risk taking, and the promotion of growth" (Midgley & Wood, 1993, p. 252). Sharing their personal practice contributed to creating such a setting. Darling-Hammond (2000) claimed that most teachers spend their days in isolation from professional colleagues thus

denying them opportunities to explore new ideas and strategies. Teachers rarely experience knowledge outside their own beliefs thus limiting their knowledge to solve complex instructional problems outside their expertise (Barth, 1991). This lack of communication may discourage teachers and hinder student achievement (Fullan, 1999). According to Eisner (2002), the learning center for the teacher educator is not the university; it is the school in which the teacher works. Professional learning communities initially established in the business communities by Senge in the 1990s revealed the benefits of collaboration and encouraged movement of this concept into the realm of education (Senge, 1990; Senge et al., 2000). PLCs provided a different view of conducting business through collegiality, professionalism, and results (Wells & Feun, 2007). Shellard (2003) affirmed that teachers must have access to collaborative and interdependent professional communities. Teachers must be able to share their personal practices with others in the education community. This may not be only in the teacher's school but may also be across schools, systems, states, and countries. It is by exploring the teaching of others that teachers can reflect and refine their own practices. Darling-Hammond (2000) stressed that, "educators can expect little change in the teaching/learning process unless they pay more attention to the ways in which teachers learn together and do their work" (as cited in Morrissey, Cowan, Leo, & Blair, 1999, p. 8). Sergiovanni (1996) asserted, "if our aim is to help students become lifelong learners by cultivating a spirit of inquiry and a capacity for inquiry, then we must provide the same conditions for our teachers" (p. 152). According to Putnam and Borko (2000), PLCs are a catalyst for teachers to share personal practice and maybe see the need to continue a PLC. Teachers benefit from PLCs as they attend initial meetings to learn from each other, they return to the PLC meetings bringing experiences from their classrooms to discuss with other professionals outside their classrooms. Further, teachers may return to the PLC meetings with

results from new experiences in their classrooms as a result of conversations and knowledge gained from participation in the PLC.

The research suggests that the characteristics defined by Hord (1997) are supported; researchers have each noted Hord's PLC characteristics within their work. The combination of supportive and shared leadership, collective creativity, shared values and vision, supportive conditions, and shared personal practice must all exist in some form to encourage a viable PLC. As far back as 1900, Dewey claimed that behavior is shaped by shared goals, shared values, and personal contact (as cited by Bryk et al., 1999; Dewey, 1933; Hawley, 1950; Weber, 1947). PLCs lacking these characteristics slowly dissolve, as seen at Durant School and Lord Byron School in the study by Giles and Hargreaves (2006). Durant received a new principal who preferred an independent learning community in lieu of one sharing personal practice, as had been used by the former administrator. This new approach dissolved the school's PLCs and eventually resulted in less conversation about teacher practice and was seen as detrimental to the school community. The Lord Byron School began to change the make up of its PLCs due to political and organizational requirements of the school district. The changes affected the supporting factors of the PLCs making it impossible for the PLC to be maintained. This study reinforces guidelines from the literature that reports it is necessary to maintain the traits of PLCs to foster their success in a school community. Hord and Hirsch (2008) made the case that PLCs provide the context most supportive for learning professionals.

<center>Technological Professional Learning Communities</center>

The analysis of literature thus far has reviewed PLCs at a face-to-face level or "land-based" PLC. However, recent studies have revealed that PLCs also exist in technological forms.

These technological or cyber PLCs maintain the defined characteristics of PLCs and expand the concept to allow teachers to communicate with other educators beyond the boundaries of their physical communities and into the schools and classrooms of other educators around the globe.

Lieberman and Mace (2009) encouraged new possibilities in the way PLCs function. They suggested that online social networking and the use of web resources provide a means to "scale up" professional development. In recent years, some studies have revealed that professional development was in need of "radical change" from the short independent professional development formats that temporarily remove teachers from isolation and move them into professional learning communities (Borko & Putnam, 2000; Cochran-Smith & Lytle, 2009; Fullan, 1995; Knapp, 2003; Lieberman & Mace, 2009; Lieberman & Miller, 2001). The definition of these technological professional learning communities is "synchronous/asynchronous two-way communication between individuals and their peers, to which the individual has some commitment and professional involvement over a period of time" (Leask & Younie, 2001, p. 225).

As changes in professional development occurred, McLaughlin and Talbert (2006) studied schools in Michigan and California and discovered teachers were learning to work together in various types of communities. The access to widespread multimedia tools has provided opportunities for educators to teach and learn with their colleagues in new ways (Lieberman & Mace, 2009). Prensky (2001) asserted as more "digital natives" enter the teaching field, new models of professional learning need to exist to capitalize and connect on their interests and talents. Educators are creating podcasts, using email, and blogging as they integrate the emerging field of technological pedagogy and content knowledge into their classrooms (Harris, Mishra, & Koehler, 2006). The deployment of use of technological tools for professional

learning has been too limited (Mishra & Koehler, 2006). Making practice "public" invites many people into the sharing of values and collective creativity that is a PLC (Lieberman & Mace, 2009). They provide the example of a teacher struggling with a reading lesson. The teacher may video the lesson and place it on a social networking site. The teacher asks for guidance and ideas from veteran educators within the social network and within minutes or hours receives a variety of comments, ideas, and discussion points that open of line a communication that is significantly broader than the school building PLC that might have limited the discussion a few years ago. According to Lieberman and Mace (2009), these practices have become commonplace in Europe and Asia for joining the novice and veteran teachers.

Current research of online PLCs by Desimone (2002) has suggested that evaluation of online PLCs be determined by the core features of the community including "content focus, active learning, coherence, duration, and collective participation" (p. 183). Outcomes of these networked professional learning communities has included transformation of practices, philosophies, instructional time, and increased collegial interactions (Borko, 2004). This participation often occurs synchronously and online, and it supports integrating domains where teachers learn and eliminate barriers that previously existed (Lieberman & Mace 2010). Technology and education leaders need to assist teachers in understanding that cyber gathering places are not distractions from teaching but instead opportunities to establish professional learning communities without walls.

In 2007, the National School Boards Association reported that in districts where structured online PLCs exist, participation by teachers and administrators was high. This research, combined with others (e.g., Atkins et al., 2003; Computing Research Association, 2005; Fulton, Yoon, & Lee, 2005; Jenkins, Clinton, Purushotma, Robinson, & Wiegel, 2006)

revealed a future where cyber networks and social networks become the central context and catalyst for learning and instruction by both teachers and students. Parallel research has focused on online professional learning communities (Barab, Kling, & Gray, 2004; Farooq, Schank, Harris, Fusco, & Schlager, 2008; Reninger & Shumar, 2002; Schlager, Fusco, & Schank, 1998, 2002) inspired both by literature on face-to-face PLCs and the research of social networks outside K-12 education. These studies revealed that online and, under certain conditions, teachers can interact more frequently, build more diverse networks, and gain more equitable access to resources. The dialogue of these online communities was determined to be equal or better than face-to-face communities. Networks are beginning to show the opportunities to facilitate school change (Penuel & Riel, 2007). Opportunities to connect teachers isolated by boundaries within their school community to teachers with expertise and the ability to exchange information is proposed to be cost effective and beneficial to the teachers within the cyber PLC (Schlager, Farooq, Fusco, Schank, & Dwyer, 2009). Cyber PLCs may be an offshoot of a face-to-face PLC, vary across time, and have limitless boundaries.

Alabama has broadened opportunities to participate in cyber PLCs over the last 5 years. This has been seen through the many opportunities offered by the Alabama State Department of Education (ALSDE) via the Alabama Learning Exchange (ALEX, http://alex.state.al.us/index. php). ALEX has provided educators the opportunity to share podcasts relative to the Alabama Course of Study and teaching standards, maintain a personal workspace to collect and store beneficial information obtained from other educators, and participate in ALEXville, a variety of PLCs on different topics that allow educators to interact, share ideas, question, and reflect on their experiences. This ALSDE created website serves as the connector for educators who have

participated in a face-to-face PLC and continue sharing their experiences via the Alexville

community through blogs and discussion forums.

The ALSDE has continued their facilitation of online PLCs through a variety of E-

learning PLCs that teach educators how to create podcasts, take virtual field trips, create and use

blogs effectively with students and parents, and encourage science and math activities in cyber

space (http://elearning.alsde.edu/). E-learning is Alabama's implementation of the E-Learning

for Educators Initiative, a project funded through a federal Ready to Teach grant and multi-state

collaboration between 10 state education agencies and associated public broadcast stations. The

E-learning goals are aimed at facilitating collaborations and communications among a diverse

collection of agencies in nine states; therefore, enhancing teacher and student learning across the

United States (http://elearning.alsde.edu/).

The available research suggests that teachers given the opportunities to participate in

cyber PLCs can anticipate building a community of shared values and vision, increased

collective creativity, shared leadership within the community, and shared personal experiences

by diverse groups in nontraditional settings. Continued research may provide opportunities to

determine the effectiveness of technological and combined PLCs as tools to enhance teacher

reflection and/or performance in the 21st century.

Reflection

William James (1907) said there is no substitute for reflective thinking. According to

Arredondo Rucinski (2006), reflection is a vital tool in the realm of education. Both James and

Arredondo Rucinski said educators need to reflect on their performance to improve their

practice. The literature on reflection provides understanding of how people think and evaluate

themselves and their experiences. It is necessary to analyze the literature and research related to reflection, metacognition and reflective thinking to make connections regarding how educators may use reflective practices when participating in professional learning communities (PLCs).

Reflection, reasoning, thinking, reviewing, problem solving, inquiry, reflective judgment, reflective thinking, critical reflection, and reflective practice are terms used throughout the literature to describe reflection (Moon, 2010). John Dewey considered reflection vital to all learning experiences. Dewey (1933) stated that reflection enables "us to act in a deliberate and intentional fashion" (as cited in Rogers, 2002, p. 212). The purpose of reflection is to discover our habits, the ways we respond to the world, and to experience internal dialogue. Reflection involves cognitive processes. These cognitive processes include observation, inquiry, metacognition, analysis, hypothesizing, and synthesis (Montie et al., 1998). Benson and Harkavy (1997, as cited in Arredondo Rucinski & Bauch, 2006) asserted that intelligence does not develop due exclusively to action and experience, but as a result of reflection on action and experiences. Moon (2010) stated, "Reflective capacity varies among individuals and develops with age but also within an educationally stimulating environment" (p. 3). Collay et al. (1998) suggested that as one reflects on his actions, he is making meaning and is becoming professional. Reflection is defined as the process of making meaning that moves learners through experiences as they gain deeper levels of understanding of the relationships within the experiences and their connections to ideas (Dewey, 1910/1933). Reflection implies purpose (Dewey, 1933, as cited in Moon, 2010; Hullfish & Smith, 1961). Reflection can help teachers organize their thoughts and make sense of events (Farrell, 2004). Reflection for teachers may be used as a tool for improvement (Arredondo Rucinski, 2006). Reflection used in this method maintains three levels of development as described by Farrell (2004). These levels are technical, contextual, and

critical. Technical reflection focuses on what a person is doing. This type of reflection addresses the quality of practice without relation to their effects or lack of effect. Contextual reflection relates the relationship between a situation and its effects or action. Critical reflections are deeper and more insightful (Arredondo Rucinski, 2006; Farrell, 2004). These levels of reflection express how teachers may reflect relative to experiences they are having within classroom environments. "Reflective teaching requires that teachers examine their values and beliefs about teaching so they may take more responsibility in the classroom" (Korthagen, 2004, as cited in Farrell, 2004, p. 7). Teachers must reflect more critically about their roles as professionals (Keedy & Achilles, 1997). Dewey (1933) reminded his readers that reflection is complex, rigorous, intellectual, and emotional and takes time to do well. The function of reflection, according to Dewey (1916/1944), is to make meaning of relationships among the elements within experiences, to discover relationships between experiences, and relationships between one's own knowledge and the knowledge of others. Through reflections one can see and experience change and gain meaning in a new way. Rodgers (2002) connected Dewey's reflection insights to teachers by commenting that a reflective teacher does not simply seek solutions nor do the same things everyday without understanding the origins or impact of their behaviors.

Teachers who reflect on their experiences can begin to understand what their students do and why (Rodgers, 2002). Rodgers related the term reflection to the concept of inquiry, and said persons who are practicing the rigorous skill of reflection are inquiring about how experiences relate. Inevitably this knowledge and practice of reflection encourage further questions and desires to understand other experiences. Reflection places emphasis on learning through questioning and investigations that lead to understanding (Smyth, 1992). This knowledge better prepares teachers to make informed decisions both inside and outside of the classroom. The

National Board of Professional Teaching Standards (NBPTS) defined reflection as one of their five core standards by saying, "They (teachers) critically examine their practice on a regular basis to deepen knowledge, expand their repertoire of skills, and incorporate new findings into their practice" (http://www.nbpts.org/the_standards/the_five_core_propositio). Teachers participating in the process of becoming Nationally Board Certified are required to reflect critically on three areas of their practice and on how they share their practices with others, in order to complete the application process.

Van Manen (1991, as cited in Farrell, 2004) identified three types of reflection relative to teacher practice. Type one is anticipatory reflection, which allows a teacher to plan, decide a course of action, and anticipate future consequences. Type two is active or interactive reflection that allows teachers to make immediate decisions during class as events happen. Type three is recollective reflection and allows teachers to make sense of past experiences and gain additional insights and make meaning of those experiences. Greenwood (1993) supported Van Manen's idea of anticipatory reflection by saying that if this type of reflection was used more often much of the world's suffering could be reduced. Moon (2010) summarized the philosophies of reflection by saying, "reflection is the tool for service rather than being part of the service itself" (p. 19).

Teachers who have time to reflect on their practices and learn from each other become better teachers (Flowers, Mertens, & Mulhall, 2000). Bowman (1989) asserted that teachers who reflect on their feelings and why they feel the way they do, are better able to understand their interactions with others. Smith (2004) referred to this thinking about one's thinking, understanding or learning as metacognition and an innovative label for the concept of reflection. Metacognitive thinking can change from situation to situation (Seeratan, 2001). Metacognitive

knowledge is knowledge about ourselves, experiences we encounter, and strategies we use (Garner, 1994). Through reflection, one becomes aware of his or her own knowledge or cognitive understandings. A person must be aware of his or her own cognitive knowledge and strategies in order to monitor and regulate those strategies (Huitt, 1997). Flavell (as cited in Pellegrii & Bjorklund, 1997) described three classes of metacognitive knowledge variables: person, task, and strategy. Person variables include a person's knowledge of his or her own thinking abilities with respect to the thinking abilities of others. Task variables involve knowledge of the task's requirements. Strategy variables require knowledge of the cognitive techniques required to solve the task and the strategies most efficient to complete the task assigned. Smith (2004) presented a framework for teacher reflection through metacognitive practice. These actions are sequenced and related to questions to provide an understanding of the framework. The actions include (1) describing (What do I do?), (2) informing (What does it mean?), (3) confronting (How did I come to be this way?), and (4) reconstructing (How may I do this differently?). Teachers may ask these questions when working through confusing situations (Montie et al., 1998). Collay et al. (1998) encouraged metacognitive practice through writing. The reflective teacher is encouraged to write down his or her thoughts and reflect on them. He or she is encouraged to place the journal entry aside and return to it later and reflect on the earlier thinking. It is necessary for teachers to think about their thinking and actions to confront their choices and restructure their understandings to improve their teaching skills.

According to Dewey (1933), active, persistent, and careful consideration of any belief or form of knowledge that contains a base support system and further conclusion is reflective thinking. Dewey's reader can relate the process of how this reflective thinking relates to scientific inquiry. Teachers practice reflections as they move data from an experience to

formulate a theory, the theory is tested based on the experiences, and learning occurs through this process of reflective thinking (Rodgers, 2002). Loughran (2002) referred to Schön's (1983, 1987) definition of reflective thinking as framing and reframing a problem and expands this by saying reflective thinking influences the subsequent actions in practice. He asserted that reflective thinking is an often overlooked aspect of teaching. King and Kitchener (1994) distinguished between reflective thinking and critical thinking by clarifying that critical thinking is related to problem-solving skills that, if learned, will facilitate finding a solution. Reflective thinking may require these same problem-solving skills but also an ability to cope with uncertainty.

Jay and Johnson (2002) identified three classifications of reflective thinking. They are (1) descriptive reflection, which is describing the situation or problem; (2) comparative reflection that encourages the review of a situation from diverse perspectives and where teachers may use their own values and beliefs to seek solutions; and (3) critical reflection where the teacher may look at the situation for all of the participants and perspectives that may be engaged in the situation. Effective reflective thinking involves careful consideration of what is seen and the action it takes to enhance learning (Loughran, 2002). Reflective thinking carries meaning and offers insights valuable to all educators. Dewey (1933) said, "thinking enables us to direct our own activities with foresight and to plan according -in-view or purpose of which we are aware" (as cited in Moll, 1990, p. 238). The ultimate goal of reflective thinking is to take control of ones' own thinking and become self-regulated, self-reliant, and self-correcting (Broadbear, 2003). Kiekegaard (1968) said, "life is lived forward but understood backward" (as cited in Loughran, 2002), this statement encourages reflective thinking as the crucial step to understanding experiences and making informed choices for the future.

The literature surrounding reflection and its many constructs and concepts is vast. Several authors agree that it is necessary to have a base knowledge of reflection and its practices before looking critically through the lens of teaching and professional learning communities. Reflection, metacognition, and reflective thinking all maintain active components that require one to review his or her experiences and make meaning of them. Each of these characteristics of reflection may assist a teacher in becoming a more productive member of a PLC while the PLC may encourage the teacher to improve his or her skills in reflection and its practices.

Reflection within Professional Learning Communities

Professional learning communities are collaborative teams working to achieve common goals. Teachers participating in PLCs benefit from the opportunities to learn from each other. Reflection is an important and vital part of this process. Reflection within a PLC provides opportunities for collective inquiry among a diverse group of professionals. York-Barr, Sommers, Ghere, and Montie (2006) provided data that show gains in teacher learning are possible when reflection becomes a part of educational practice in a school community. The NBPTS maintains five core propositions for a teacher to become nationally board certified (http://www.nbpts.org/the_standards/the_five_core_propositio). Three of these standards can be directly applied to reflection and PLCs. The first is that teachers are committed to their learning and the learning of students. This concept is one previously addressed by the literature review and determined to be a vital characteristic of a teacher involved in a PLC. The second requires teachers to think systematically about their practices as they learn from their experiences and the questions that their reflections initiate. Finally, the NBPTS requires that teachers become members of learning communities. It is through the process of becoming a Nationally Board

Certified Teacher that a teacher fulfills this requirement as he or she becomes a member of a large and significant learning community.

According to Garet et al. (2001) and Guskey (2003), professional learning communities require participants to embrace a culture of collaboration, reflection, and self-evaluation of practice. The collaborative structure of PLCs creates an environment that encourages collegiality, reflection, and evaluation. PLCs provide a forum by which the construction of knowledge can occur through a cycle of continuous learning with a foundation in reflection, professional interactions, and collaborative dialogue (Hord, 1997). Strahan (2003) reaffirmed that teachers cannot learn and improve in the traditional school structure that isolates them from their peers. Peer interaction and dialogue is necessary to improve professional practices. The research of Guskey (2003) and McLaughlin and Talbert (2006) showed that professional dialogue with colleagues to reflect, gain feedback, and attain assistance in implementation of new ideas is necessary for continued teacher growth and learning. Teaching faculties need opportunities to think more critically about schools as professional workplaces (Keedy & Achilles, 1997). According to Louis and Marks (1998), "By engaging in reflective dialogue about teaching and learning, teachers can examine the assumptions basic to quality practice" (p. 539). When effective PLCs are created teachers become grounded in the process of reflection and make meaning of their practices. This collaborative model of reflective thinking enriches personal reflections and provides suggestions from peers on how to refine teaching practices (Syrjala, 1996). Kettle and Sellars (1996) studied the growth of teaching students in their third year. They analyzed the students' reflections and talked with them about their reflective practices. They found that the use of peer reflective groups encouraged the teaching students to be more reflective of their practices while teaching them the collaborative style of professional

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development that may better guide them in their careers. Alabama's Quality Teaching Standards (2007) require that educators within the state engage in continuous learning and self-improvement while collaborating with colleagues. This requirement for teachers encourages the creation and facilitation of PLCs that promote teacher reflection to improve their practices. The available literature and research connecting PLCs and reflection revealed teachers in PLCs question, seek new strategies, test the strategies, and reflect on results. Building reflective environments increases the transfer of knowledge and enables teachers and learners to engage in rigorous, ongoing assessment and evaluation (Collay et al., 1998). This theme reoccurs in the research of Bryk et al. (1999) who asserted that one of the core practices in professional learning communities is reflective dialogue among teachers regarding instructional practice. According to them, participation in collegial reflective activities may encourage critical reflections and open opportunities for new instructional practices.

Teachers need time and opportunities to reflect and even then it is not likely that these trained professionals will be able to do so upon demand (Francis, 1995; Hatton & Smith, 1995; Walker, 1985). Meyer (1986) encouraged time for both reflection and interaction during and between periods of teaching. Previously in the literature it was noted the PLCs needed shared leadership and a variety of facilitators throughout the building, Barnett (1992) revealed that a good facilitator needs to be a model of reflective practice. Gibbs (1988) suggested that PLC participants observe conversations modeled by facilitators in an effort to understand what they are attempting to achieve by reflecting on their experiences. Prior to the term professional learning community being popular, Wildman and Niles (1987) used the same premise when encouraging the participation of administrators for introducing reflective activities to a group of

teaching staff. The concept of supportive leadership and shared personal experiences has emerged.

Professional learning communities merge with the concept of reflection by encouraging reflective collaboration, promoting teachers to grow through new knowledge gained through reflection, urging administrators to create supportive structures including time and opportunities for teachers to practice collaboration and reflection, and to provide opportunities for shared leadership that includes models of reflective behaviors by facilitators and administration. These collaborative opportunities encourage more rigorous reflective practice. Evans and Policella (2000) wrote, "Reflection requires teachers to be introspective, open-minded, and willing to be responsible for decisions and actions" (p. 62). Van Manen (1995) maintained that reflection is essential to educators because the notion of teachers as "pedagogues" suggests that teachers are in more than simply the growth and welfare of children but also are aware of moral and emotional considerations the profession entails. It is this type of reflective evaluation that promotes rigorous reflection and experiential learning. Schộn (1983) shared the experiences of the manager and employee and the reflection in action that occurs between them over time, which he determined encourage and become rigorous reflection, this example is supported by the work of Arredondo and Rucinski (1998). Arredondo and Rucinski (1998) researched these levels of reflection through work with teachers and their supervisors. They concluded that the more advance the collaboration between supervisors and teachers, the more rigorous the reflection becomes and that over time, it was possible for both teachers and supervisors to develop more complex levels of reflection.

These advanced reflections are defined by many researchers in levels. Collier (1999) applied three categories of teacher reflectivity. The first level is descriptive, the second is relative

to context, and the third is perspective. Four levels of reflective standards are described by Arredondo Rucinski (2006). She presented these levels in the following order: (1) emergent and reflective use of practice, (2) competent use of reflective practice, (3) expert use of reflective practice, and (4) ethical and socially just use of reflective practice. The REMAS instrument used in this research assesses these levels. Yost et al. (2000) recommends the use of, "frameworks for evaluating levels of reflectivity," these include (1) no descriptive language; (2) simple, layperson description; (3) events labeled with appropriate terms; (4) explanation with tradition or personal preference given as the rationale; (5) explanation with principle or theory given as the rationale; (6) explanation with the principle/theory and consideration of other factors; and (7) explanation with consideration of ethical, moral, and political issues (p. 45). The reflective levels or frameworks for each of these researchers' points toward the rigorous reflection as a result of advanced communications and thinking as individuals learn to evaluate their situations. It is more rigorous and advanced reflection that can be practices through professional learning communities.

Arredondo Rucinski (2009) reviewed the work of researchers to confirm that reflection on experience is important to developing professional knowledge (Beas et al., 2004, 2007; Grimmett 1988; Hart et al., 1992; Kegan 1990; Van Manen, 1977, 1995; Zeichner & Liston, 1987). Her study confirmed the importance of supervisors modeling reflective practice and supporting development of this skill in teachers. Professional learning communities provide situations and discussions for teachers to work through the levels of reflective practice discussed by Schộn (1983), Collier (1999), Arredondo and Rucinski (1998), Yost et al. (2000), and Arredondo Rucinski (2006). The challenge and opportunity to participate in experiencing more complex levels of reflection through communication and collaboration with peers in professional

learning communities will be invaluable to educators at any level. Reaching the most rigorous

level of reflection in all constructs presented addresses moral and ethical priorities that will assist

teachers in seeking their best practices and provide these practices to students.

Summary

Chapter 2 has presented a summary of the literature relevant to this research study. The

literature defines and elaborates on professional learning communities, provides a literary

background on technological professional learning communities, and outlines its difference when

compared to land-based professional learning communities, and some limitations or pitfalls that

cause the downfall of a PLC were presented. Reflection, metacognition, and reflective thinking

have been defined and discussed relevant to the current research. The discussion of reflection

related to professional learning communities and how the two concepts naturally connect closes

the review of literature. The literature reviewed the definition of PLCs, their benefits, and diverse

designs. The literature reviewed offered guidance as to how reflection is vital to the effective

teaching professional and to improve teaching practices. Clearly, reflection should have a role in

the professional learning community; however, little research connecting the two concepts was

available. Therefore, research that may provide insight into teachers' perceptions of how PLCs

affect their levels of reflection would be a valuable addition to the literature available.

CHAPTER 3

METHODOLOGY

The purpose of this study was to examine the influence of professional learning

communities (PLCs) on teachers' perceived levels of self-reflection in public elementary schools

in Alabama. This study identified elementary teachers as teaching students in public schools in

Grades Kindergarten through 6. Chapter 3 defines the methodology and provides the rationale

for this quantitative study. The target population for the study is kindergarten through sixth grade

teachers in Alabama public schools. The study sought to answer the following questions:

1. What is the makeup of professional learning communities in public elementary schools

within the North Alabama area?

2. Are there differences between the reflective practices of teachers participating in

professional learning communities and those not participating in professional learning

communities?

3. Are there differences in reflective practices of teachers in a land-based professional

learning community as compared to reflection of teachers in a technology-based professional

learning community, and of those in a combined professional learning community?

Research Design

This research used a non-experimental survey design that measured a hypothesized

relationship between professional learning community participation and levels of reflection

perceived by participants. This study was carried out in one phase and a quantitative method used. According to Cresswell (2005), quantitative studies have a specific and narrow purpose to describe trends or explain relationships among variables. Cresswell's (2005) methods require that quantitative data use predetermined instruments, numeric data, and large numbers of individuals. A single survey was used to collect data to conduct this study. Teachers were provided the Reflective, Ethical, and Moral Assessment Survey. Survey samplings provide a method of describing the attitudes, opinions, behaviors, or characteristics of the population. The REMAS (Arredondo Rucinski & Bauch, 2006), a 34-item Likert-type rating scale, was used to assess teachers' perceptions of their use of reflective, ethical, and moral dispositions which may be a result from participation in a professional learning community. The data were subjected to statistical analysis for developing responses to the research questions. The results of the REMAS (Arredondo Rucinski & Bauch, 2006) were subjected to a factor analysis. The four underlying factors of the REMAS survey have been previously described (Arredondo Rucinski & Bauch, 2006). Based on this previous research, principal component analysis with varimax rotation was conducted using four factors to extract. The first, "Reflective Dimensions" (REFLDMS), loaded on 10 survey items. The second, "Defensive Behaviors" (DEFENBEH), loaded on 5 survey items. The third, "Ethical, Moral Dimensions" (ETHMORDM), loaded on 13 survey items and, the fourth, "Ethical Priorities" (ETHPRIOR), loaded on 6 survey items. Subscale scores were created using the mean of all responses for the survey items in each subscale. Cronbach's α coefficients were used to determine internal consistency for the four dimensions. Pearson correlations were performed to assess criteria-related validity between the four subscales. Normality was assessed by Q-Q Plots and homogeneity of variances assessed by Levene's Equality of Variances test.

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Population and Convenience Sample

Samples are measured to allow the researcher to make generalizations about the target population. Hinkle et al., (2003) asserted that representation of an entire group refers to a population. The population studied by this research is elementary public school teachers in Alabama. These teachers are defined as teaching kindergarten through sixth grades in Alabama public schools. This population included approximately 921 elementary schools with approximately 14,000 teachers. A list of schools having teachers that fit this definition was obtained from the online Alabama Department of Education Directory through the Alabama State Department of Education website (http://www.alsde.edu/general/SDE_Directory.pdf). It is difficult to measure an entire population; therefore, a sample of the population of individuals was selected from the population under study following the sampling formula suggested by Cohen (1992). The survey was completed through a convenience sample of teachers of grades kindergarten through sixth grade in the north Alabama area. A convenience sampling allows the researcher to select a sample based on willingness and availability to be studied (Cresswell, 2005). The limitation of a convenience sample is that the researcher cannot be certain that individuals in the sample represent the target population; however, the sample can provide valuable information for responding to the hypothesis (Cresswell, 2005). This convenience sampling involved 38 public schools in north Alabama with 703 elementary teachers as defined by the state of Alabama Department of Education. The schools surveyed included Banks Caddell Elementary, Benjamin Davis Magnet Elementary, Chestnut Grove Elementary, Eastwood Elementary, Frances Nungester Elementary, Julian Harris Elementary, Somerville Road Elementary, Walter Jackson Elementary, West Decatur Elementary, and Woodmeade Elementary in the Decatur City Schools; Cullman City Primary, East Elementary, and West

Elementary in Cullman City Schools; Cherokee Elementary and Guntersville Elementary in Guntersville City; Cotaco School, Danville Neel Elementary, Eva School, Falkville Elementary, Lacey Springs Elementary, Sparkman Elementary, Priceville Elementary, Union Hill Elementary, and West Morgan Elementary in Morgan County Schools, Oneonta Elementary in Oneonta City Schools, Burleson Elementary, Crestline Elementary, and Barkley Bridge Elementary in Hartselle City Schools, Cleveland Elementary, Hayden Primary, Hayden Elementary, Locust Elementary, Southeastern Elementary, Susan Moore Elementary, Appalachain School, and Blountsville Elementary in Blount County Schools.

Survey Sample Size

In the scale used for this research, with two groups involved, *N* was defined as the necessary sample size for each group and used the effect size indexes provided by Cohen (1992). To detect an effect size of medium differences between two independent sample means at $\alpha = .05$ requires $N = 64$.

Instrumentation

The Reflective, Ethical, and Moral Assessment Survey (REMAS, Arredondo Rucinski & Bauch, 2006), a 34-item Likert-type rating scale, was used to assess teachers' perceptions of the use of reflective, ethical, and moral dispositions as a result of participation in a professional learning community. The REMAS responses range from 1 = *not at all* to 6 = *often*. Ten of the 34 items focus specifically on reflection, such as a review of actions, effects of actions, and plans for the future; five items focus on "defensive" behaviors of teachers. Ratings on these five items were reversed upon scoring. The remaining 24 items on the REMAS asked respondents to report

their perceptions of the frequency with which they view ethical and moral issues as related to their decisions and actions, the results of their actions and decisions, how they prioritize ethical considerations, if their behaviors include moral intentions and results in their actions and decisions when they encounter conflicting or competing events or activities (Arredondo Rucinski & Bauch, 2006). The authors believe these are components of more complex reflections. Demographic information was requested at the conclusion of the REMAS and was used in additional analysis.

<p align="center">Validity and Reliability</p>

Survey data must be valid; meaning that the data received reflects how well a measure reflects its unobservable construct (Ping, 2004). Reliability calls for an instrument to provide stable and consistent scores across multiple trials. Arredondo Rucinski and Bauch developed the Reflective, Ethical, and Moral Assessment Survey in 2006. The instrument was subjected to a test-retest reliability of survey items. A pilot study and test calculations were conducted on the internal consistency. A second data collection using the REMAS was conducted after some wording changes were made based on participant input. Alpha reliabilities on the first factor were 0.91 and a low 0.71 on the third factor (Arredondo Rucinski & Bauch, 2006). The factor structure of the instrument and reliability of the instrument were determined to be valid and reliable as a tool to evaluate perceptions of reflective, ethical, and moral decisions of participants. Arredondo Rucinski and Bauch (2006) developed the instrument to assess perceptions of doctoral program graduates. Because elementary teachers were the participants in this study, it was necessary to conduct a second factor analysis.

Data Collection

Data for this study were collected using one source, The Reflective, Ethical, and Moral Assessment Survey (REMAS, Arredondo Rucinski & Bauch, 2006). To attain approval from The University of Alabama Institutional Review Board (IRB) for all the components of this study, a letter was mailed and emailed to each school district's superintendent to provide information about the study and request approval and written consent (Appendix A). A follow-up phone call to attain verbal approval to conduct the study within their school district was attempted within 2 weeks after the written and email letters were sent. After approval had been acquired from willing superintendents and receipt of approval from the IRB, school administrators were contacted via mail and email. An abstract of the research proposal was provided by email and some personal contacts. The principals were contacted a second time via email to answer any questions and to provide information on how the surveys were to be provided to the school's teachers (Appendix B). The researcher provided surveys (Appendix C) and participant consent forms (Appendix D) to each school, based on the number of surveys the principal requested. Directions as to how to provide and return the surveys were provided to schools in which the researcher did not conduct the survey on site. A timeline to return the completed paper surveys was also outlined in the principal's letter of directions and information. A phone call to the principal was made within 5-7 days after delivering the packet to ensure receipt of the materials and directions for returning surveys.

The teachers in the 38 participating schools attended a meeting and were provided a brief synopsis of the study information by the researcher or a designated individual, such as a principal or member the school community, designated by the school principal. A question and answer session was provided to address questions of the proposed participants. After all introductory

information was provided, the Participant Consent forms (Appendix D) were provided to potential participants. Potential participants could sign and return the consent and were given the survey or could decline participation and leave the meeting. Participants were asked not to include their names or any other identifying information on the survey. Surveys were collected by the researcher, principal, or faculty designee and were picked up by the researcher or returned by United States Postal Service.

Data Analysis

The definition of a quantitative study is that the numerical data collected during the study will be subjected to data analysis (Creswell, 2009). Wolters and Daughtery (2007) support surveys as a practical method of data collection. Studying the participation rate, amount of missing data, and scale reliabilities from their study of goal structures, they determined that this method of data collection was effective.

Statistics (Tabachnick & Fidell, 2007) are used to make rational decisions about populations based on data collected and analyzed. A factor analysis was used to determine internal consistency among variables. The four underlying factors of the REMAS survey have been previously described (Arendondo Rucinski & Bauch, 2006). Subscale scores were created using the mean of all responses for the survey items in each subscale. Cronbach's α coefficients indicated very strong internal consistency for the four subscales (greater than $\alpha = 0.806$ for all subscales). Pearson correlations were performed to assess criteria-related validity between the four subscales, ETHMORDM, REFLDMS, DEFENBEH, and ETHPRIOR. Normality was assessed by Q-Q Plots and homogeneity of variances assessed by Levene's Equality of Variances test. Statistical significance was accepted at the $p < .05$ level.

The *t* test was used to analyze the research question, "Is there a difference in the reflective practice between teachers participating in professional learning communities and those not participating in professional learning communities?" This procedure (called an *independent samples t test*) analyzes the difference between the means of two groups, to determine whether or not the difference is significant, that is, whether the difference of two points can, or cannot, be attributed to chance errors made while using particular people who have been selected for the research (Charles & Mertler, 2002). A *t* test was used because the two groups of subjects were independent and were not related and reflected a comparison of the two groups.

The *t* test revealed a difference between the PLC and non-PLC groups' reflection as determined by the mean data; further data analysis was conducted on the data using an ANOVA or analysis of variance. The ANOVA was used to make comparisons within and between the survey population (Hinkle et al., 2003) to answer the additional research question, "Is there a difference in reflective practices of teachers in land-based professional learning communities as compared to reflection of teachers in technology-based professional learning communities, and of those in combined professional learning communities?" The data were compared between the groups participating in three types of professional learning communities and the non-PLC participants. The data were compared on the four dimensions and between the four groups to determine what type of PLC may or may not contribute to advanced reflections. If assumptions are not met additional evaluations will be necessary. In the event that the groups were not equal or not normally distributed a Kruskall Wallis H test was used to determine differences between the groups. The Kruskall Wallis test is a more sensitive test and thus is more likely to provide a true and accurate result.

Variables

The information acquired by the use of the REMAS was used to complete an Analysis of Variance (ANOVA). The REMAS scores were the *dependent variables.* The *independent variables* were the types of PLCs in which teachers participate: face-to-face professional learning communities, technology-based professional learning communities, or combined professional learning communities, and teachers not participating in professional learning communities. The groups were also compared on the domains of the REMAS. The domains established by the REMAS are Reflective domain, Ethical/Moral domain, Defensive domain, and the Ethical Priority domain. The analysis between the domains provided a method to determine whether more in-depth reflection occurred between the participants of different PLC types.

Ethics

Ethical practices are imperative to research studies. Participants in a study need to understand that participation in the research study is optional and there is no penalty for choosing not to participate. Participants understood that surveys would not be identified individually, by school or by school system. Each of the potential participants was guaranteed anonymity, confidentiality, and the option of participating or not participating.

Summary

The purpose of this study was to determine the levels of reflection perceived by participants in professional learning communities as compared to those participants not participating in PLCs. The study furthers the research by examining the levels of reflection perceived by teachers participating in diverse types of professional learning communities to

determine whether a specific type of PLC promotes higher levels of reflection by professional

educators. The design of the study was described in this chapter. The methodology,

instrumentation, procedures, data collection, population, and data analysis were described

throughout the chapter.

CHAPTER 4

RESULTS

The purpose of this study was to investigate the teachers' perceptions of their reflections after participating in professional learning communities (PLCs) as compared to the perceptions of reflections of teachers not participating in PLCs. The following research questions and hypothesis were used to guide the study:

1. What is the makeup of professional learning communities in public elementary schools within the North Alabama area?

2. Are there differences between the reflective practices of teachers participating in professional learning communities and those not participating in professional learning communities?

3. Are there differences in reflective practices of teachers in a land-based professional learning community as compared to reflection of teachers in a technology-based professional learning community, and of those in a combined professional learning community?

To adequately investigate the proposed questions, the REMAS survey was employed, with the addition of demographic data. Survey research was selected for this study in the form of a self-administered questionnaire, due to efficient turnaround time in data collection and economy in design.

This chapter presents the findings from the study in three sections. The first section describes the participants and data collections procedures, the second section presents the

demographic data obtained from the surveys, and the final sections addresses the data comparisons between the groups used to determine reflective responses among the domains and types of PLCs. The chapter concludes with a summary of the findings of the presented data.

Participants

The target population was certified teachers currently teaching any subject in kindergarten through sixth grades employed in north Alabama public elementary schools. Quantitative data were collected through the previously developed Reflective, Ethical, and Moral Assessment Survey (REMAS), a 34-item survey (Arredondo Rucinski & Bauch, 2006). Twelve School systems were contacted to participate, seven systems' superintendents agreed to allow their elementary schools to participate thus 38 schools in north Alabama, with a total of 703 eligible teachers, participated in completing the surveys. Of the 703 elementary certified teachers in the 38 schools eligible to complete the survey, 512 returned participant consent forms and surveys for a return rate of 72%.

All participating teachers were certified to teach in Grades Kindergarten through 6 in Alabama schools and were employed in the north Alabama area. The survey stated, "For the purpose of this study a professional learning community or PLC is defined as a community in which interaction among teachers is frequent and teachers' actions are governed by shared norms focused on the practice and improvement of teaching and learning (Bryk et al., 1999). Unlike traditional professional development, PLCs are maintained over a period of time such as days, weeks, or months and have an interactive basis. Examples include but are not limited to book clubs, groups or collaborative studies, courses incorporating a collaborative method, or collaborative meetings about classroom methods." Teachers completing the survey, and having

attended a PLC, as defined above, within the last 2 years (2009 to 2011) comprised 293 of the 512 returned surveys or 57.1%. There were 219 survey participants who had not participated in a PLC in the last 2 years, equaling 42.7% of returned surveys. Two surveys did not indicate whether the teacher had participated in a PLC. These two surveys were not included in the analysis.

The initial evaluation of the data provided answers the first research question, "What is the make-up of professional learning communities in public elementary schools within the North Alabama area? Within the demographic portion of the survey, teachers were asked to select the type of PLC in which they most recently participated. There was also an option for "other" if the three choices of face-to-face, technology, or combined professional learning community were not sufficient to define their professional learning community (PLC). The 293 surveys returned revealed that in the participating north Alabama schools, three significant types of PLCs exist. There were 176 participants in face-to-face PLCs accounting for 60% of all PLC participants surveyed. The combined PLC participation had 73 participants or 25% of the participation. There were 44 participants in technology PLCs, accounting for the smallest percentage at 15% of all PLC participants. No respondents noted an alternative PLC type. This information verified the three significantly used types of PLCs in the north Alabama schools are face-to-face, PLCs combining face-to-face and technology, and those PLCs using only technology for communication.

As presented in Table 1, upon review of the 512 returned surveys it was determined that 58, or 11.3%, of returned surveys were from males as compared to 452, or 88.1%, returned responses from females. Two survey participants did not respond to this question. African Americans accounted for 81 (16.2%), respondents, 44 (8.8%) were Asian, 6 (1.2%) were

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Hispanic, and 15 (2.9%) participants elected not to respond to this question. Caucasians accounted for the highest return rate by race with 367 (73.3%). However, Africa Americans had the highest PLC participation percentage at 69%. Female participation (60.8%) and male participation (58%) in PLCs had small variance in PLC participation rate. Teachers in the age range of 30 to 34 had 58 PLC participants (68%) participation and ages 45 to 49 also had 68% PLC participation, accounting for 46 participants. The mean rate of non-participation in a PLC was 35% with the range of 33% to 36% across all age divisions. The grade level or subject with the highest percentage of participation was first grade, while Music, Art, and Drama had the lowest percentage of participation in PLC followed closely by Physical Education. The years of experience with the highest percentage of PLC participation was 26 to 30, while the years of the experience with the lowest PLC participation rate was 31 to 34 years. Finally, the ages of respondents with the highest level of participation in a PLC were 30 to 34 years and 45 to 49 years of age, and the age of respondents with the lowest participation in PLCs was in categories of persons 50 years and older.

According to the National Center for Education Statistics (NCES, 2007-2008), the 4 to 1 ratio of women to men teachers in this study is similar to the national data for teachers, with females being higher. National demographic data reported 44% percent were under the age of 40. This study reports that in participating schools in north Alabama, 34% are below the age of 40. National demographic data reported that 72% of elementary school teachers are White and 8% are African American. The data from this study reported that while the number of White teachers is equal to that reported by NCES, the African American rate is doubled to 16%.

Table 1

Summary of Participant Demographic Data

Participants		Total		PLC		NPLC	
		$n = 512$	%	$n = 293$	%	$n = 219$	%
Gender	Male	58	11.3	34	58	24	41
	Female	452	88.1	275	60.8	177	39.2
Race	African American	81	16.2	56	69	25	30
	Asian	44	8.8	29	66	15	34
	Caucasian	367	73.3	199	57	168	46
	Hispanic	6	1.2	2	33	4	66
	Other	3	.6	3	100	0	0
	No response	12	.2	10	83	2	16
Age	22 – 29 years old	46	9.2	29	65	16	35
	30 – 34 years old	91	7.7	58	68	33	36
	35 – 39 years old	37	7.2	24	65	13	35
	40 – 44 years old	105	20.5	60	66	36	34
	45 – 49 years old	68	13.3	46	68	22	33
	50 – 54 years old	75	14.6	48	64	27	36
	55+ years old	76	14.8	49	64	27	36
Experience	< 5 years	62	12.1	33	53	29	47
	6 – 10 years	122	23.8	60	40	62	60
	11 – 15 years	131	25.5	73	55	58	44
	16 – 20 years	67	13.1	41	61	26	39
	21 – 25 years	77	15.0	48	62	29	43
	26 – 30 years	33	6.4	23	70	10	30
	31 – 35 years	8	1.6	1	12	7	86
	36 + years	6	1.2	1	16	5	83
Grade or Subject	Kindergarten	65	12.7	40	62	25	38
	1st	72	14.0	52	72	20	28
	2nd	72	14.0	48	67	24	33
	3rd	52	10.0	30	58	22	42
	4th	50	9.7	18	36	32	64
	5th	58	11.3	25	43	33	57
	6th	31	6.0	15	48	16	51
	Physical Ed	34	6.6	8	24	26	76
	Art/Music/Drama	24	4.7	4	17	20	83
	Library	13	2.5	7	53	6	46
	Special Education	34	6.6	16	47	18	53
	Other	22	4.3	15	68	7	32

Note. PLC = Participated in PLC, NPLC = No PLC

The surveys were administered at each of the 38 schools. The participants were provided a teacher's consent form which, upon signing, they were provided the survey and were asked to return the survey to the envelope provided by the survey administrator. The survey took approximately 15 to 29 minutes. When all surveys were returned to the envelope by participants, the envelope was sealed and either held by the survey administrator until the researcher returned to pick it up, or immediately placed in the nearest United States mail receptacle.

Statistical Analysis

Descriptive Statistics Survey Instrumentation

The Reflective, Ethical, and Moral Assessment Survey (REMAS, Arredondo Rucinski & Bauch, 2006) was the survey selected for this research. Participants were asked to respond to the 34 items on the REMAS using a 6-point scale. Arredondo Rucinski and Bauch first created this survey in 2004. A pilot study and test calculations were conducted on the internal consistency. A second data collection using the REMAS was conducted after some wording changes were made based on participant input. Alpha reliabilities on the factors ranged from a high of 0.91 to a low of 0.71 on the third factor (Arredondo Rucinski & Bauch, 2006). The factor structure of the instrument and reliability of the instrument were determined to be valid and reliable as a tool to evaluate perceptions of reflective, ethical, and moral decisions of participants. Arredondo Rucinski and Bauch (2006) developed the instrument to assess perceptions of doctoral program graduates; for this reason a second factor analysis was performed to ensure the survey was valid and reliable when used with teachers. The analysis revealed the REMAS instrument to be valid and reliable for teachers.

Results

The four underlying factors of the REMAS survey have been previously described (Arredondo Rucinski & Bauch, 2006). Based on this previous research, principal component analysis with varimax rotation was conducted using four factors to extract (see Table 2). The first, "Reflective Dimensions" (REFLDMS), loaded on 10 survey items (1, 2, 3, 4, 5, 6, 7, 8, 9, 10). The second, "Defensive Behaviors" (DEFENBEH), loaded on 5 survey items (11, 12, 13, 14, 15). The third, "Ethical, Moral Dimensions" (ETHMORDM), loaded on 13 survey items (16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28) and, fourth, "Ethical Priorities" (ETHPRIOR), loaded on 6 survey items (29, 30, 31, 32, 33, 34). Subscale scores were created using the mean of all responses for the survey items in each subscale. Cronbach's α coefficients indicated very strong internal consistency for the four subscales (greater than $\alpha = 0.806$ for all subscales). Pearson correlations were performed to assess criteria-related validity between the four subscales, ETHMORDM, REFLDMS, DEFENBEH, and ETHPRIOR (see Table 3). All correlations, with the exception of DEFENBEH against ETHPRIOR, were statistically significant ($p < .05$). REFLDMS and ETHMORDM had the greatest correlation ($r = .423$) but all other correlations were low (less than $r = 0.242$). Normality was assessed by Q-Q Plots and homogeneity of variances assessed by Levene's Equality of Variances test. Statistical significance was accepted at the $p < .05$ level. The factor structure of the instrument and reliability of the instrument were determined to be valid and reliable as a tool to evaluate perceptions of reflective, ethical, and moral decisions of teachers.

Table 2

Factors, Items, Factor Loadings, Internal Consistency, and Descriptive Statistics for Variable Scales (N = 512)

Factor name	Question asked in survey	Component loading	Range	Mean	SD
REFLDMS	Review actions in conversations?	0.714	1 − 6	4.51	1.26
	Ask questions about assumptions underlying actions?	0.723	1 − 6	3.98	1.27
	Invite feedback about actions?	0.741	1 − 6	4.32	1.13
	Respond to feedback from others with clarifying questions or paraphrased statements?	0.724	1 − 6	4.37	1.08
	Ask questions about perspectives of others?	0.692	1 − 6	4.36	1.13
	Ask questions about your own perspective?	0.697	1 − 6	4.29	1.12
	Construct meaning in conversations?	0.718	1 − 6	4.42	1.10
	Interpret and check interpretations of others?	0.719	1 − 6	4.26	1.07
	Plan actions?	0.613	1 − 6	4.52	1.15
	Describe plans and check plans with others?	0.559	1 − 6	4.61	1.17
	Cronbach's α = 0.893		3.98 − 4.61	4.36	0.82
DEFENBEH	Become defensive when questioned by others?	0.595	1 − 6	4.50	1.16
	Deny responsibility for decisions or actions you take?	0.686	1 − 6	5.04	1.24
	Intentionally screen out criticisms, e.g., Use expressions like, "I don't remember saying that −"?	0.831	1 − 6	4.92	1.19
	Rationalize behaviors, e.g., "I only did that because −"?	0.790	1 − 6	4.55	1.20
	Blame others, e.g., "I could not do that because policy/ past practice/ others/ forbid it −"?	0.773	1 − 6	5.00	1.18
	Cronbach's α = 0.806		4.50 − 5.04	4.80	0.90
ETHMORDM	View workplace decisions and actions as having moral and ethical dimensions?	0.588	1 − 6	4.42	1.36
	Ask the question: "Is this a moral action?"	0.716	1 − 6	4.14	1.38
	Ask; "Is that an ethical decision?"	0.758	1 − 6	4.18	1.41
	Ask: "What is likely to be the result of this action on fellow employees?"	0.765	1 − 6	4.17	1.20
	Ask: "What is the likely result on future practice?"	0.729	1 − 6	4.12	1.23
	Ask: "What is the likely result on policy?"	0.593	1 − 6	3.76	1.22
	Ask: "What is the likely result on clients or customers?"	0.676	1 − 6	4.17	1.28
	Ask: "What is the likely result on society in general?"	0.672	1 − 6	3.82	1.25
	Ask: "What is the likely effect on marginalized or disadvantaged groups?"	0.662	1 − 6	3.96	1.23

(*table continues*)

Factor name	Question asked in survey	Component loading	Range	Mean	SD
	Examine decisions from an ethical or moral perspective?	0.817	1 − 6	4.54	1.20
	Ask: "Is this decision right or wrong?"	0.736	1 − 6	5.06	1.09
	Exhibit moral or ethical motivation in the workplace (i.e., prioritize moral and ethical values relative to other values)?	0.758	1 − 6	4.85	1.16
	Exhibit moral or ethical character in the workplace (i.e. , demonstrate sensitivity, courage, persistence, and, implementation behaviors)?	0.645	1 − 6	4.97	1.15
	Cronbach's α = 0.922		3.76 − 5.06	4.32	0.90
ETHPRIOR	Rate the needs of employees first and above future practice, policy, clients or customers, society in general, or persons from disadvantaged groups?	0.504	1 − 6	3.88	1.23
	Rate practice first and above the needs of employees, policy, clients/customers, society in general, or persons from disadvantaged groups?	0.759	1 − 6	3.30	1.21
	Rate policy first and above the needs of employees, future practice, clients/customers, society in general, or persons from disadvantaged groups?	0.767	1 − 6	3.17	1.15
	Rate clients/customers first and above the needs of employees, future practice, or persons from disadvantaged groups?	0.723	1 − 6	3.56	1.20
	Rate the needs of society in general first, and above the needs of employees, future practice, policy, clients/customers, or persons from disadvantaged groups?	0.788	1 − 6	3.29	1.12
	Rate the needs of persons from disadvantaged groups first and above those of employees, future practice, policy, clients/customers, or society in general?	0.765	1 − 6	3.52	1.17
	Cronbach's α = 0.832		3.17 − 3.89	3.46	0.87
TOTAL	Cronbach's α = 0.904		3.17 − 5.06	4.25	

Table 3

Correlations between the Four Subscales: ETHMORDM, REFLDMS, DEFENBEH, and ETHPRIOR

Factors	ETHMORDM	REFLDMS	DEFENBEH	ETHPRIOR
ETHMORDM	1			
REFLDMS	0.423*	1		
DEFENBEH	0.089*	0.172*	1	
ETHPRIOR	0.242*	0.223*	0.002	1

Note. All correlations were Pearson correlations except for correlations involving DEFENBEH, which were Spearman Rank Order Correlations due to non-normality of DEFENBEH data. * indicates statistically significant at the *p* < .05 level.

PLC Type and Reflective Dimensions (REFLDMS)

REFLDMS score was not normally distributed for each PLC type, there were

heterogeneity of variances (*p* < .05), unequal sample sizes, and some moderate outliers. As such,

a Kruskal-Wallis H Test was run with pairwise comparisons, which were adjusted for multiple

comparisons. REFLDMS score was affected by PLC type, $\chi^2(3) = 20.583$, *p* < .0005. Post-hoc

analysis revealed statistically significantly higher median REFLDMS score for face-to-face PLC

than receiving no PLC (*p* < .0005). The researcher speculates that the higher reflection level is

due to the personal communication experienced by participants in face-to-face PLCs. All other

differences between PLC types were not statistically significant (*p* > .05) (see Figure 1).
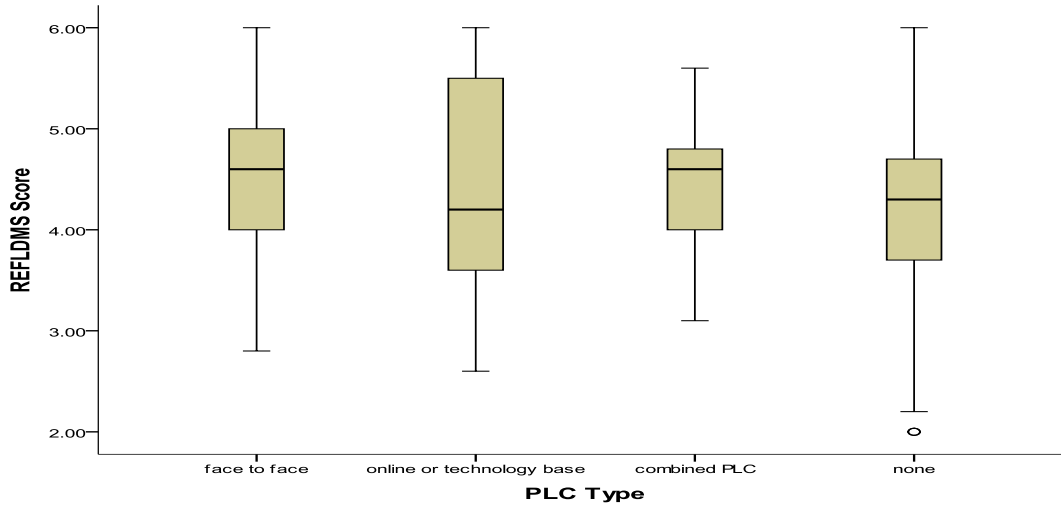
Figure 1. Boxplot showing reflective dimensions (REFLDMS) score for the different PLC types.

PLC Type and Defensive Behaviors (DEFENBEH)

DEFENBEH score was not normally distributed for each PLC type with data skewed left for each level of the independent variable. As such, an inverse log transformation was applied ($\log_{10}(7 - \text{DEFENBEH})$). Transformed data were normally distributed and there was homogeneity of variances ($p > .05$) with minimal moderate outliers. DEFENBEH score was not affected by PLC type, $F(3,508) = 1.926$, $p = .124$ (see Figure 2).
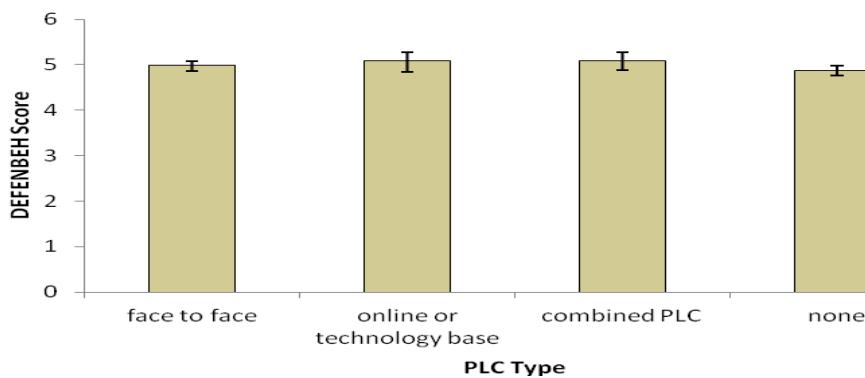

Figure 2. Mean defensive behaviors (DEFENBEH) score for PLC types. Error bars represent 95% confidence intervals.

PLC Type and Ethical and Moral Domain (ETHMORDM)

ETHMORDM score was only approximately normally distributed for each PLC type,

there were unequal sample sizes and the assumption of homogeneity of variances was violated (p

< .05). As such, a Kruskal-Wallis H Test was run. ETHMORDM score was not affected by PLC

type, $\chi^2(3) = 4.043$, $p = .257$ (see Figure 3).
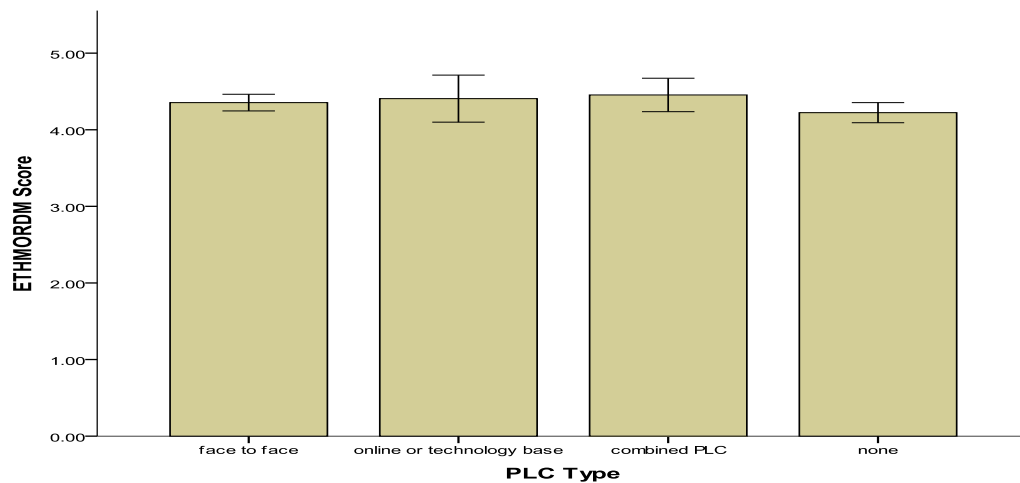
Figure 3. Mean ethical and moral domain (ETHMORDM) score for PLC types. Error bars represent 95% confidence intervals.

PLC Type and Ethical Priorities (ETHPRIOR)

ETHPRIOR score was normally distributed for each PLC type and the assumption of

homogeneity of variances was not violated (p > .05) but there were many outliers. As such, a

Kruskal-Wallis H Test was run with pairwise comparisons, which were adjusted for multiple

comparisons. ETHPRIOR score was affected by PLC type, $\chi^2(3) = 12.727$, $p = .005$. Post-hoc

analysis revealed statistically significantly higher median ETHPRIOR score for face-to-face PLC

($p = .016$) and combined PLC ($p = .009$) and not significant for No PLC ($p = .004$) or technology

PLC. All other differences between PLC types were not statistically significant ($p > .05$) (see Figure 4).
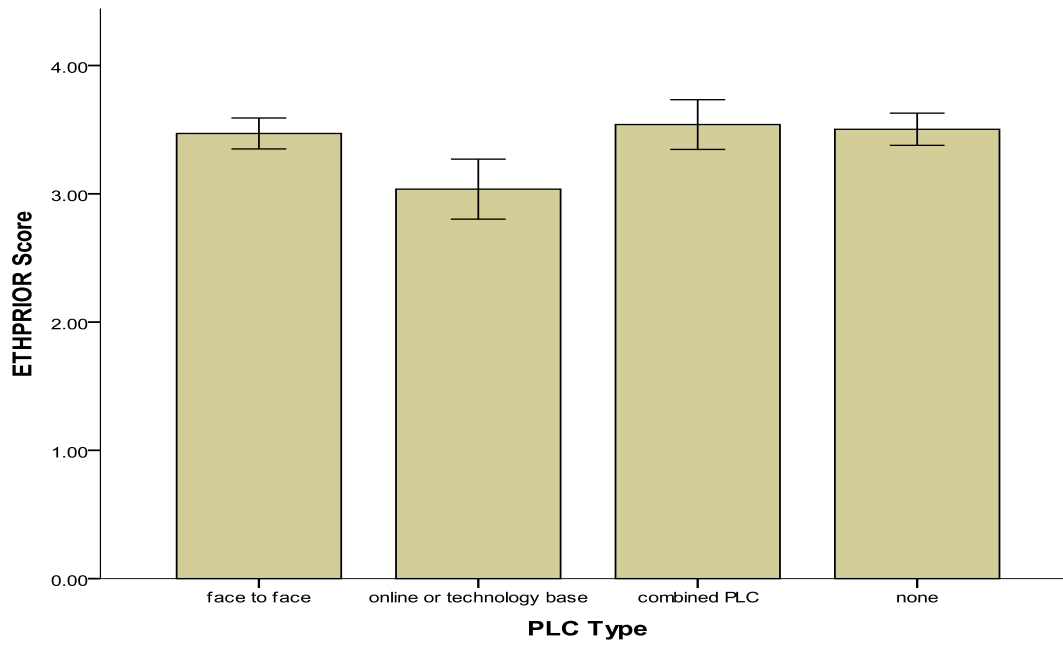
Figure 4. Mean ethical priorities (ETHPRIOR) score for PLC types. Error bars represent 95% confidence intervals.

Summary of Survey Results

After teachers had completed their surveys and the data were analyzed, it was apparent that while differences in reflective practices were not acknowledged across all four domains for PLC types, that face-to-face and combined PLC does seem to influence the reflective practices of elementary school teachers in the participating north Alabama schools. This possibility is supported by the finding that there was no significant statistical data ($p > .005$) that revealed differences between participants of technology-based PLCs and no PLC among the four domains of the REMAS. The statistical differences *($p > .005$)* are shown in the data of the Reflective

domain for face-to-face PLCs and in the Ethical Priorities domain for both face-to-face and combined PLCs.

The survey data, when reviewed, answers the remaining two research questions: Are there differences between the reflective practices of teachers participating in professional learning communities and those not participating in professional learning communities? and Are there differences in reflective practices of teachers in a land-based professional learning community as compared to reflection of teachers in a technology-based professional learning community, and of those in a combined professional learning community? The simple answer to these questions would be yes; however, the degree to which the data were evaluated between the REMAS domains and participant groups revealed that while an overall review of the data reveals higher levels of reflective perceptions among participants in PLCs the researcher found this only to be true in the face-to-face and combined PLC participants and in the Reflective and Ethical Priority REMAS domains.

Summary

This chapter presented the findings of the research, a summary of the data collection procedure, a descriptive analysis of the surveys results, and a report of the findings. The study examined whether or not PLC participation or lack of participation were possibly related to the reflective self-perceptions of participants. The study also further analyzed whether a specific type of PLC participation seemed to enhance the self-perception of teacher reflective practice. The hypothesis suggests that there is a correlation between participation in specific types of PLCs and teachers' perceived self-reflection. The data regarding face-to-face and combined PLCs as compared to technology-based PLCs support this hypothesis to be true.

The final chapter discusses and summarizes the results, answers the research questions, and describes implications for research practice and policy. The discussion presents the significant relationships between reflective perceptions and types of PLCs and the implications for educational practice. This concluding chapter presents the recommendation for further research to enhance the study's outcomes.

CHAPTER 5

DISCUSSIONS AND CONCLUSIONS

Educators are being asked to guarantee that every student learns to that student's utmost ability. Teachers cannot meet this challenge until they are provided the opportunity to attain their highest level of learning. Holland (2005) suggested that professional development can influence the classroom practices that lead to student achievement. Professional learning communities (PLCs) may offer this learning and assurance to teachers. PLCs offer a substantial conceptual model for transforming schools to meet the expectations brought on by a variety of governmental requirements such as No Child Left Behind. PLCs are professional learning teams where participants can learn from one another, encourage each other, and challenge reflections among the PLC participants. PLCs are collaborative teams that work to achieve common goals. Participants are able to learn from one another and gain motivation for continued improvement.

John Dewey (1933) believed reflection to be central to all learning experiences. It is through reflection that people discover how they respond to the world around them. Dewey described reflection as a sequence of ideas that has the consequence of determining the next outcome and reflection is a fundamental process within a PLC. Isolated efforts can only result in isolated improvements within a classroom or school community, but PLCs provide significant potential for continued reflective practice that may spread the opportunity for improvement across schools and school systems. The PLC provides an opportunity for inquiry, explorations in understanding, and contribution that are a result of working within a community of learners. Educational gains become possible when reflection becomes part of the teacher's practices

(York-Barr et al., 2006). Currently, more research attention is focused on reflection as a method for improving professional practice (Arredondo Rucinski, 2005; Arredondo & Rucinski, 1998; Arredondo Rucinski et al., 2009; Kaufman, 2004). Shermis (1999) suggested that persons engage in reflection when they encounter a problem with uncertain answers. These reflections include asking questions, generating solutions, noticing patterns, and resolving conflict. PLCs provide educators the opportunity to explore these reflective steps with peers in a safe environment. The reflections can assist the PLC members as well as the individual teacher presenting the problem.

The professional learning community (PLC) promotes reflection and collaboration and finds its basis to be the sociocultural theory presented by Vygotsky (1986). The key feature of the sociocultural theory is that higher order functions emerge from social interactions (de Valenzuela, 2007). Vygotsky argued that to observe an individual one must examine the external social world in which that life has developed and the participations in cognitive and communication activities that "scaffold" them. Kublin, Wetherby, Crais, and Prizant (1989) simplified Vygotsky's theory by saying, "learning is embedded within social events and occurs as interactions with people, objects, and events occur in the environment" (p. 287). Each of these researchers argued that the sociocultural theory reveals that learning is a product of the social interactions had by individuals within their environment. This is the same premise previously discussed when defining PLCs. The collaboration of educators in any type of community to learn from each other, solve problems, interact, communicate, and reflect on experiences supports the sociocultural theory and encourages PLC creation among educators across communities. It is the collaboration and communication of PLCs that may foster more in-depth reflective practices by PLC participants as reported by this research.

Purpose of the Study

The purpose of the study was to explore the relationship between participation in professional learning communities and the development of levels of self-reflection of K-6 teachers in the north Alabama area. The study compared teachers participating in different types of PLCs and those not participating in PLCs. The structure of this final chapter includes an overview of the study design with a summary and discussion of the findings, response to research questions, conclusions drawn from the findings, recommendations for further explorations, and implications for practicing educators and policy developers.

Summary of Methods

This study used a quantitative research method to study the influence of professional learning communities (PLCs) on teachers' perceived levels of reflection. The study involved 512 kindergarten through sixth grade teachers of varying subjects in 38 north Alabama elementary schools. Consent to access personnel was assured by the superintendent in each school district and acquired through contact with the principal of each elementary school. The 512 participants represented two groups: those having participated in a PLC within the last 2 years (2009-2011) and those not having participated in a PLC. The PLC participants were further broken down into three groups of participants based on the type of PLC in which they participated. Face-to-face PLC accounted for 182 participants, 46 participants had participated in technology/online-based PLC, and 75 participated in a combined face-to-face and technology PLC. Two hundred nineteen respondents had not participated in a PLC within the past 2 years.

The teachers assessed their own levels of reflection using the Reflective, Ethical, and Moral Assessment Survey (REMAS, Arredondo Rucinski & Bauch, 2006). The teachers were

the unit of analysis and the REMAS measured four domains of reflection. These domains included ethical/moral, ethical priority, defensive behaviors, and reflective behaviors.

Summary of the Findings

The quantitative data from the self-assessment surveys measured reflective self-perceptions and indicated more in-depth reflections by the professional learning community (PLC). This result is further clarified by an evaluation of the reflective perceptions among the four domains of the Reflective, Ethical, and Moral Assessment Survey (Arredondo Rucinski & Bauch, 2006) broken down by the type of PLC in which teachers participated or did not participate.

The convenience sample of the 512 kindergarten through sixth grade teachers revealed that self-perceptions of teachers participating in face-to-face PLCs had a higher median score in the Reflective Domain ($p <. 0005$). The Ethical Priority domain also revealed a statistically significant higher median for both face-to-face ($p =. 016$) and combined PLC ($p = .009$). From the statistical information gained from the surveys it can be determined that a positive relationship exists between face-to-face and Combined PLC and the perceived reflective perceptions of PLC participants. There was no statistically significant relationship in REMAS domains and survey respondents who participated in technology-based PLCs or respondents who did not participate in a PLC.

The statistical correlations are in two of the four domains, Reflection and Ethical Priority. The connections within the Reflective domain are with face-to-face PLC. This domain represents the most basic level of reflection on practice. Questions asking for feedback on their actions and asking questions about the perspectives of others or reviewing one's own perspectives in the

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workplace. The desire to understand and consider the views of others may cause teachers to reevaluate their own practices and make adjustments to improve their teaching. These survey items require the understanding of a participant's primary internal considerations instead of the results of their actions.

A positive relationship exists between the Ethical Priority domain and two PLC types, face-to-face and combined PLC. The Ethical Priority domain relates respondents' reflective practice to their effects of actions and decisions on society. This domain relates to a higher level of reflections as respondents weigh their actions and reflections on the communities in which they live and work. The statistical support of the relationship between reflective perception in the Ethical Priority domain and the two types of PLCs should encourage educational leaders to consider using these types of PLCs within school communities. It may be concluded that teachers spending more time in reflective activities such as PLCs moved to higher levels of self-reflection. Educators work within diverse school communities and must reflect on their actions to consider how to best meet the needs within that diverse school community that could only prove beneficial to teachers, colleagues, and students. The statistical data should encourage educational leaders to challenge teachers to participate in PLCs that maintain some facet of face-to-face communication. The educational leadership may use this research to encourage initiatives that creates PLCs that are face-to-face within their school communities. When working across schools or systems, leaders may want to consider creating a PLC that maintains a face-to-face portion within each school but also maintains a technology portion to connect teachers across schools or systems.

The lack of correlation and lower levels of reflective perceptions among the four REMAS domains in technology-based PLCs may reveal that the absence of personal interactions between

PLC participants deters them from making significant, beneficial reflective connections. The statistical data also reveal that teachers who do not participate in PLCs have no significant relationship to any of the four REMAS domains. This information should encourage educational leaders to persuade all teachers to participate in a PLC community.

The demographic data provided by respondents revealed pertinent insights for educational leaders working to create professional learning communities (PLCs). The information supplied by respondents revealed that 219 of the 512 teachers (43%) have not participated in a PLC in the two most recent school years. These data are troubling because techniques and strategies for teaching elementary students are constantly changing and require teachers to learn and grow to improve the quality of education for these students. The data reveals little difference in the participation rate of males (58%) and females (61%) in PLCs. Teachers between the ages of 30 and 34 or 45 and 49 had the highest participation rates at 68%, but a range of 4% between the highest and lowest participation rates among all ages was found. This leads the researcher to believe that teachers of all ages in elementary schools are pursuing opportunities to communicate and learn from other educators in professional learning communities. In looking at PLC participation by years of experience, the data reveal that prior to attaining five years of teaching experience, participation in a PLC may exist to help teachers learn about the school community and establish their teaching strategies. However, after a teacher's first five years' participation, the percentage of PLC participation fell from 53% to 40%. This decline may be due to teacher maintenance of the practices learned in recent PLCs and begin efforts to master these practices and determine their own teaching methods. After the 10-year teaching mark, PLC participation steadily grew from 55% in years 11 to 15 to 70% participation in PLCs for years 26 to 30, thus keeping learning, collaboration, and

communication of teaching active over 15 years of service. After 30 years of service, teacher participation in PLCs drops dramatically with 12% to 16% of those with 31 or more years of service. This drop may be due to teachers considering retirement and choosing not to participate in PLCs as they begin to exit the field. These age-based findings would seem to provide useful information to a principal who is interested in providing differentiated professional growth opportunities for his/her teaching staff.

The demographic information that yielded the most significant insight as to PLC participation was that of grade level or subject taught. These data revealed that those teaching in kindergarten through third grade maintain higher PLC participation rates, between 58% and 72%, while participation rates of teachers teaching in Grades 4 through 6 have a range of 36% to 48%: this is a significant drop in participation. The participation between lower elementary and upper elementary should be observed by education leaders as they may consider a need to create or encourage those in upper elementary grades to participate in PLCs. The second insight revealed through the demographic data relative to teaching grade or subject is the minimal participation of most specialist areas such as music, art, drama, physical education, and/or special education. These areas all maintained lower rates of participation. This lack of participation may be due in part to the fact that PLCs normally do not relate to these concentrated areas. Librarians report a 53% participation rate as compared to 17% of Music, Art, and Drama teachers. Educational leaders need to consider whether PLCs should be offered across disciplines or if these specialist areas simply need to be encouraged to participate in PLCs.

Study Limitations and Delimitations

The design of this quantitative study included certain limitations. One possible limitation is that survey participants may not have provided honest answers to all questions. Thus the researcher had to assume the responses provided were honest. A second limitation may be that survey participants failed to answer all questions in the survey. Surveys not completed in their entirety were not used in the study calculations.

Delimitations of the study included that the study is a convenience sample limited to Grades K through 6 teachers in the north Alabama area; therefore, the study may only be generalized to the K through 6 teachers in the participating schools. The researcher attempted to ensure responses were only acquired from persons certified and teaching within the requested area by contacting the superintendents and principals in elementary schools in the designated region.

The research was highly focused on the exploratory research questions and results were limited to the setting of professional learning communities. The findings from this study provide an understanding for educators who seek a better knowledge regarding teachers' perceived reflections linked to participation in specific types of professional learning communities. The findings provide educational leaders with insight into the types of PLCs that may promote reflection and improve teaching. This is a guiding factor in creating PLCs in the school environment.

Recommendations for Educators

As stated previously in the literature review of this study, Collay et al. (1998) contended that reflecting on actions is central to making meaning of work and becoming professional. This

definition relates to the work of Van Manen (1977) who suggested that actions of professionals are guided by the outcomes of reflection altered into competence. The quantitative analysis of the data presents a positive relationship of teachers' reflective perceptions by those participating in professional learning communities (PLCs). The goal of PLCs is to improve teacher practice through communication, collaboration, and reflection. Educational leaders may find it beneficial to seek out or create professional learning communities within individual schools or school districts. These PLCs will provide opportunities for teachers of various grades and subject fields to build collaborative relationships that encourage reflection and communication. These PLCs can be face-to-face communities or partially technology based with some personal face-to-face interactions throughout the course life of the PLC. Educational leaders who are mindful of the need for professional interactions among their staff and build opportunities for those interactions may discover their staffs maintain a more reflective community that encourages improved practice among those community members. These improved reflective practices may then have a positive impact on classroom teaching thus improving student learning as the teachers begin to model reflective behaviors.

This study used a convenience sampling of schools in north Alabama and therefore these recommendations may only be generalized to those schools; however, these results may be applicable to elementary school administrators in Alabama and other states where high-stakes testing, teacher pay for student performance, or new teacher evaluation systems are being imposed. Educational leaders need to ensure their teachers succeed by providing ample opportunities to participate in PLCs. In a time of fiscal distress in school systems across Alabama, as well as at the state level, PLCs may be the low cost/no cost alternative to sending teachers to short-term professional developments that lack the follow-up and community that

encourages and supports teachers to put the skills learned into practice, and support continued reflection on the use of newfound knowledge. Professional learning communities are collaborative teams that work to achieve a common goal; participants in PLCs can learn from one another and create a desire for continued improvement. According to York-Barr et al. (2006), the most significant potential for reflective practice to improve schools is within the collective inquiry, thinking, understanding, and acting together that result from school-wide engagement rather than isolated efforts. They believe that gains are possible when reflection becomes a part of the school's learning community. Whether the reflective skill is at the basic level of understanding one's own perspective as in the Reflective domain of the Reflective, Ethical, and Moral Assessment Survey (REMAS, Arredondo Rucinski & Bauch, 2006), used in this study or more advanced self-reflection used within the Ethical Priority domain, both levels of reflection hold a relationship to participation in a PLC. Educational leaders need to consider the benefit of a reflective community within the school when planning for activities that will assist teachers in meeting the school-wide goals as well as state and federal requirements.

<div align="center">Implications for Practitioners</div>

After analyzing the data from the study, the researcher saw implications for current practitioners regarding professional learning communities and reflective practices. These include that professional learning communities (PLCs) create environments that can improve reflective practices and professional learning communities provide a link for teachers to see and experience the connection between teaching and learning.

Teachers who are dedicated to their field of practice should reflect on their beliefs about teaching, define their blueprint for personal and student success, and continually reflect on that

blueprint. These practitioners may examine their skills and make observations about students but, may interact with other educators to create communities in which they learn from each other, challenge each other, and continue to reflect on the blueprint they created to define success. York-Barr et al. (2006) suggested that reflection in small groups can provide a sense of hope and encouragement that may promote sustained improvements in teaching practice. They further stated that these small groups may provide a sense of collegiality, support, and understanding of others. The data attained in this study, when combined with prior research, leads this researcher to believe that participation in a PLC is beneficial in encouraging and enhancing a teacher's ability to reflect on his or her practices both in their classroom with students and in interactions with others outside the classroom.

This research reveals that reflection in educational environments is facilitated by participation in professional learning communities (PLC). The PLC is a tool that may promote the useful technique of reflection. The combination of the PLC that builds interaction and knowledge through collaboration encourages reflection among peers which, according to Moll (1990), assists in integrating both scientific and knowledge systems thus improving practice. Reflection has the potential to improve the practices of teachers. A list of potential benefits resulting from the use of reflective practice implemented in schools was provided by York-Barr et al. (2006). A few of the benefits in the list include guidance for new career teachers or teachers in new roles, bridges between theory and practice, and growth in cultural competence. Each of these benefits may assist in positive changes within a school community.

The researcher concludes that participation in PLCs may provide teachers in the elementary setting the opportunity to collaborate and connect on their practices thus improving their reflective perceptions. The use of reflection can help teachers organize their thoughts,

encourage inquiry in professional constructs, promote collaboration, and encourage ongoing learning. The statistically significant difference found between those participating in face-to-face or combined PLCs enhances the value of this study. This study may be used as information to assist educators in determining what type of PLCs may be most effective in creating positive changes in schools. A comment written by a participant in this study stated, "PLCs provide the best avenue for professional development that impacts student achievement." This statement confirms for the researcher what the data already revealed: professional learning communities are vital tools in promoting reflection that may lead to teacher success.

Suggestions for Additional Research

During the course of this study, the researcher encountered additional research questions that, when answered, may further broaden the understanding of the relationship between professional learning communities (PLCs) and reflection, as well as growth in reflective practices over time.

The researcher suggests a future study be conducted that provides the Reflective, Ethical, and Moral Assessment Survey (REMAS, Arredondo Rucinski & Bauch, 2006) to professional learning community (PLC) participants prior to beginning the PLC and again at the completion of the PLC to compare a participant's pre- and post-participation between the three types of PLCs: face-to-face PLCs, technology-based PLCs, and combined PLCs. The scores may also be compared to a control group of teachers not participating in a PLC but instead assessed provided with the REMAS. The information gleaned from this additional research may provide guidance on the degree to which teacher perceptions of their reflective practices change after participating

in a PLC and moreover, which type of PLC may encourage the most significant increase in reflective practice.

This study may be replicated within other geographic areas within the state of Alabama or in a different state or region to determine if the generalizations made among the 38 schools used in north Alabama may apply within other areas of the state or in other states and regions. The researcher would also recommend a qualitative portion be added to each of the suggested research to surveys to attain additional insights into the specific creation and function of PLC and what components of the PLC participants found to assist them in gaining additional skill in reflective domains.

Additionally, the original study of using the REMAS suggested that persons over the age of 55 were reported as having the highest self-assessed levels of reflective practice. The demographic data acquired in this study lend itself to additional study to confirm this report and evaluate the levels of reflections of persons of varying ages and gender. The variety of results and insights that could be gained from comparing REMAS scores between ages or genders may also assist in determining the types of PLCs that may benefit a specific age group or gender.

Finally, the unit of analysis for this study was teachers. Future studies may compare schools participating in PLCs and those not participating in PLCs. The current school administrator is challenged by determining what types of professional training a staff need to meet the school's goals relative to state and federal guidelines. Using the REMAS before and after facilitation of a PLC within a school may assist the school administration in determining growth among the faculty. This study may also consider tests scores of students before and after PLC facilitation to gain a full and diverse view of how a PLC affected teacher learning and reflection as well as student learning.

Conclusions

Educators are challenged daily to improve, alter, enhance, and change their teaching practices to meet the ever-evolving guidelines and mandates of current educational standards. In response to the need for teacher growth and support, professional learning communities are used to guide and enrich teachers in improving their practices. To improve teaching skills, teachers need to be able to reflect on their practices and seek knowledge to improve while creating a supportive community that will continue to facilitate professional growth.

Confucius said, "By three methods may we learn wisdom: First, by reflection, which is noblest; second, by imitation, which is easiest; and third by experience, which is bitterest." These words define the process of learning for a teacher as he or she becomes a reflective practitioner. Often teachers have had experiences in failed lessons that encourage them to begin to learn from and copy the lessons and skills of others. This imitation is an easy tool to use to find initial success, but eventually this success is unfulfilling and teachers begin to evaluate themselves further through discussion with peers and self-evaluation. It is this tool of noble reflection that will assist the teacher in finding true success. The secondary benefit or culmination of these experiences may also be the participation in a formal or informal professional learning community that will support and encourage continued growth and reflection as the teacher's career continues.

The growth of professional learning communities (PLCs) over the last 2 decades has begun to provide educators with support systems and reflective abilities to design classrooms that can meet the needs of an ever-changing and diverse society of learners combined with demanding standards of school districts, state agencies, and federal government. Educational administrations often need to look no farther than their school buildings or across the district to

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create communities that, through collaboration and reflection, can build expertise that was once held in isolation within each classroom. Administrators need to focus on building safe and supportive structures that encourage teachers to ask for help and guidance from their peers that may promote reflection on their teaching. Encouraging a teacher to collaborate and reflect on their practice by stepping out of the classroom and into the school, school system, or across the internet to connect with other educators has the potential to build teachers that are role models for their students, that facilitate success in a world that requires everyone to be a member of the global community.

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APPENDIX A

SUPERINTENDENT CONSENT LETTER

Dear Superintendent,

My name is Rachel Poovey, and I am a graduate student conducting dissertation research in the Department of Leadership at The University of Alabama on *Relationships of Professional Learning Communities and the Perceptions of Reflective Practices of Elementary School Teachers.* I am requesting your permission to conduct this study with elementary teachers in your school district.

The purpose of this study will be to examine how Professional Learning Communities (PLCs) are used in North Alabama Schools to foster reflective practices within the work environment and to determine which type of PLC best encourages this practice: online PLC, face-to-face PLC, or a combined version. There will also be a comparative evaluation of elementary teachers who have participated in a PLC in the last two years and those who have not participated in a PLC in the last two years.

Participants are identified based on data provided by their local school system websites and/or the Alabama State Department of Education. In order to be considered for participation, the educators must be employed in a North Central Alabama school system. The benefit of participating is the researcher will share the implications of the study with the participating schools. This information can be used to determine the professional growth areas of concern for the schools.

As participants, educators will be asked to complete a questionnaire on their reflective practices relative to decision making in the work environment. The survey should take no longer than 15-20 minutes to complete. At the end of each questionnaire is a section that asks some demographic information relative to participant experience in education and grade level taught. A copy of the survey is enclosed.

There are no known risks associated with completing and returning the survey or participating in the interview. Participation is voluntary. All information will be kept confidential, and the participants may withdraw from the study at any time with no further inquiries from the researcher. Should the participants choose not to remain confidential, they are, hereby, made aware of the nonconfidentiality risks associated with the inclusion of data in the final report.

Thank you in advance for your consideration. A follow up phone call to answer any questions will be provided within five days of this letter. If you agree to have your elementary school teachers participate, please send your approval in writing by email to rmrpoovey@me.com or by fax to 256-552-4690 at your earliest convenience. This letter has also been mailed with a self addressed and stamped envelope if you prefer.

Thank you for your support of this study.

Rachel Real Poovey
Graduate Student
The University of Alabama
Department of Educational Leadership
307 Graves Hall
Tuscaloosa, AL 35847
(205) 348-7826

Rachel Real Poovey
PO Box 1308
Decatur, AL 35602

APPENDIX B

PRINCIPAL INFORMATION LETTER

Dear Principal,

My name is Rachel Poovey, and I am a graduate student conducting dissertation research in the Department of Leadership at The University of Alabama on the *Relationships of Professional Learning Communities on the Perceptions of Reflective Practices of Elementary School Teachers*. I am notifying you, with the permission of your district's superintendent, that I plan to conduct this study in your school. His or her approval is enclosed with this letter.

The purpose of this study will be to examine how Professional Learning Communities (PLCs) are used in North Alabama Schools to foster reflective practices within the work environment and to determine which type of PLC best encourages this practice: online PLC, face-to-face PLC, or a combined version.

Participants were identified based on data provided by their local school system websites and/or the Alabama State Department of Education. Also, they must be involved in a PLC on an ongoing basis within the last two academic school years. In order to be considered for participation, the educators must be employed in a North Central Alabama school system. The benefit of participating is the researcher will share the implications of the study with the participating schools. This information can be used to determine the professional growth areas of concern for the schools.

As participants, educators will be asked to complete a questionnaire on their reflective practices relative to decision making in the work environment. The survey should take no longer than 15-20 minutes to complete. At the end of each questionnaire is a section that asks some demographic information relative to participant experience in education and grade level taught.

There are no known risks associated with completing and returning the survey or participating in the interview. Participation is voluntary. All information will be kept confidential, and the participants may withdraw from the study at any time with no further inquiries from the researcher. Should the participants choose not to remain confidential, they are, hereby, made aware of the nonconfidentiality risks associated with the inclusion of data in the final report.

Thank you in advance for your assistance. It is my intent to follow up with you by phone to set a date and time that I may meet your faculty and provide them the survey. Enclosed in this packet are copies of the informed consent and a copy of the survey I would like to have completed. If you have any questions prior to my phone call please feel free to call me at 256-227-0976 or email me at rmrp88@yahoo.com .
Thank you again,
Rachel

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APPENDIX C

PARTICIPANT INFORMED CONSENT LETTER

Rachel Poovey, a graduate student at the University of Alabama, is conducting a research project on Professional Learning Communities in North Central Alabama elementary schools. The sponsoring institution for this research is The University of Alabama.

The purpose of this study will be to examine how Professional Learning Communities (PLCs) are used in north Alabama elementary schools to foster reflective practices within the work environment and to determine which type of PLC best encourages this practice: online PLC, face-to-face PLC, or a combined version.

Potential participants were identified based on data provided by their local school system websites and/or the Alabama State Department of Education. In order to be considered for participation, the educators must be employed in an Alabama school system and be at least 21 years of age. The data will provide no personally identifiable information and will be held and maintained by the primary researcher in a locked file cabinet. The raw survey data will be maintained until the completion of the research, approximately four months, and then will be shredded by the primary researcher. The benefit of participating is the researcher will share the implications of the study with the participating schools. This information may guide schools to determine more effective professional development opportunities for the teaching staff.

As participants, educators will be asked to complete a questionnaire on their reflective practices relative to decision making in the work environment. The survey should take no longer than 30 minutes to complete. At the end of each questionnaire is a section that asks some demographic information relative to participant experience in education and grade level taught.

There are no known risks associated with completing and returning the survey or participating in the interview. Participation is voluntary. All information will be kept confidential, and the participants may withdraw from the study at any time with no further inquiries from the researcher. You may skip any question that you do not prefer to answer. You may decide not participate or to discontinue participation at any time without penalty. Your participation or non-participation will have no effect on your job or relationship with the school system.

If you have questions about your rights as a person in a research study, call Ms. Tanta Myles, the Research Compliance Officer of the University, at 205-348-8461 or toll-free at 1-877-820-3066

Should there be any questions, please contact the researcher at the phone number provided.

Thank you,

Rachel Real Poovey

By signing below, I confirm that I am over 18 years of age and agree to participate in the project on PLCs by Rachel Poovey in The University of Alabama, College of Education.

_____   _____   _____

   Printed Name of Participant   Participant Signature   Date

Rachel Real Poovey
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APPENDIX D

PERMISSION TO USE THE REFLECTIVE, ETHICAL AND MORAL ASSESSMENT
SURVEY CREATED BY DR. DAISY ARREDONDO RUCINSKI
AND DR. PATRICIA BAUCH

From: Laura Jenkins [LJenkins@emeraldinsight.com]
Sent: Thursday, December 15, 2011 3:05 AM
To: Arredondo-Rucinski, Daisy
Cc: 'adwalker@ied.edu.hk'; 'hallinger@gmail.com'; 'rmrp88@yahoo.com';
'dabryant@ied.edu.hk'; Thomas Dark
Subject: RE: copyright for instrument published in JEA, REMAS (Arredondo Rucinski and
Bauch, 2005)

Dear Professor Arredondo Rucinski,

Many thanks for your email; please allow me to introduce myself; my name is Laura Jenkins
and I am the Rights Assistant here at Emerald Group Publishing. I am pleased to say that
providing that your student references the material fully, this is absolutely fine; however, if
the dissertation is published commercially in the future, permission will need to be cleared
once more.

I hope that this answers your question, but should you have any further queries, please
don't hesitate to contact me.

Kind Regards,

Laura Jenkins
Rights Assistant
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APPENDIX E

REFLECTIVE, ETHICAL, AND MORAL ASSESSMENT SURVEY
WITH REVISED DEMOGRAPHIC INFORMATION