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Adult Learning in a K-12 Setting; Job-Embedded Professional Development: Teacher Identity and Self-Efficacy

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The University of Southern Mississippi

ADULT LEARNING IN A K-12 SETTING; JOB-EMBEDDED PROFESSIONAL
DEVELOPMENT: TEACHER IDENTITY AND SELF-EFFICACY

by

Deidra MacLellan Gammill

Abstract of a Dissertation
Submitted to the Graduate School
of The University of Southern Mississippi
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy

December 2013

ABSTRACT

ADULT LEARNING IN A K-12 SETTING; JOB-EMBEDDED PROFESSIONAL DEVELOPMENT: TEACHER IDENTITY AND SELF-EFFICACY

by Deidra MacLellan Gammill

December 2013

This two-phase sequential mixed methods study examined the relationship between professional development, whether in the form of traditional professional development, a professional learning community and/or lesson study, and teacher self-efficacy and self-directed learning in order to gain a greater understanding of the role professional development plays in teacher identity and efficacy as they relate to adult learning theory.

The qualitative case study method was used to interview 22 teachers, half of whom participated in a professional learning community known as lesson study. The interview data indicated that collaboration was simply one of the variables that influenced teacher efficacy and identity. Each teacher expressed high levels of conscious self-directed learning tendencies, a hallmark of adult learning theory, indicating a relationship between self-directed learning and identity, efficacy, and collaboration; however, analysis of the data did not provide enough information to determine which variables were the cause and which were the effect.

A modified version of the Personal Learning Orientation to Self Direction in Learning Scale (PRO-SDLS) (Stockdale & Brockett, 2011) was sent to approximately 600 teachers in two school districts. The research hypotheses stated that high self-

efficacy scores and self-directed learning scores were the result of participation in a professional learning community and that participation in lesson study would result in higher self-efficacy and higher self-directed learning scores than participation in a professional learning community. The hypotheses were answered by running *t*-tests and a one-way MANOVA.

Results suggest that participation in a professional learning community did not affect teacher self-efficacy; however, participation in a professional learning community affected self-directed learning as measured by motivation but not initiative or control. Results from a one-way MANOVA indicate that participation in lesson study affects self-directed learning as measured by initiative, control and motivation, but not self-efficacy. Collaboration is an important factor in promoting teacher-efficacy, but that collaboration may take many forms, including a professional learning community. Future research studies examining collective teacher efficacy and other types of teacher collaboration may be useful in determining the role these variables play in how teachers learn and develop self-efficacy and identity.

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December 2013

DEDICATION

*Hope is the thing with feathers
That perches in the soul,
And sings the tune--without the words,
And never stops at all*

Emily Dickinson (2005)

This dissertation has been ten years in the making. Literally. But the hope of achieving it was planted in my heart and mind as a girl, when my parents told me that education, like reading, was the key that opened all the doors in the world. Mama & Daddy, you both instilled in me a desire *to know* and *to know why*, and without your support and confidence, I would never have dared to hope such a lofty goal was attainable. Thank you for always seeing more in me than I could see in myself.

Michael, your unwavering strength and commitment to seeing me through this process kept me from faltering and falling by the wayside time and time again. You are truly “faithful 100%” and I am blessed beyond measure to have you as my “beloved and friend” in this world. I love you. Always.

Emily, Christian & Hunter – for most of your lives your mother was in school. I wouldn’t have been able to finish this degree without your help. Those motivational reminders (are you EVER going to finish???) didn’t hurt either. You guys are amazing, and I’m so grateful you followed your father’s example of supporting me in this.

Without the support of my administration and colleagues, especially my colleagues and friends in English and CTE, this dissertation could not have been written. Thank you guys!

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TABLE OF CONTENTS

ABSTRACT ii

DEDICATION iv

ACKNOWLEDGMENTS v

LIST OF TABLES viii

LIST OF ILLUSTRATIONS ix

CHAPTER

I. INTRODUCTION 1

Statement of the Problem

Conceptual Framework

Professional Learning Communities

Nature of the Study

Research Questions

Research Hypotheses

Assumptions, Limitations, Scope, & Delimitations

Definition of Terms

Summary

II. REVIEW OF THE LITERATURE 23

Professional Identity

Professional Development of Teachers

Professional Learning Communities

Lesson Study

Self Efficacy

Teacher Efficacy

Reflection

Adult Learning

Conclusion

III.	METHODOLOGY	63
	Purpose	
	Research Hypotheses	
	Participants	
	Qualitative Data Collection	
	Quantitative Data Collection	
	Data Analysis	
	Summary	
IV.	PRESENTATION AND ANALYSIS OF DATA.....	78
	Qualitative Data Analysis	
	Summary of Qualitative Findings	
	Quantitative Data Analysis	
	Description of Sample	
	Instrument	
	Hypotheses	
V.	SUMMARY	120
	Overview	
	Background to the Study	
	Discussion	
	Directions for Future Research	
	APPENDIXES	139
	REFERENCES	154

LIST OF TABLES

Table

1.	Demographics of Interview Participants.....	80
2.	Interview Question Grouping	83
3.	Demographic Characteristics of Two School Districts.....	103
4.	Highest Degree Earned	105
5.	Teachers in PLCs and /or Lesson Study	105
6.	Professional Development Sought Outside the School District	107
7.	Cronbach’s Alpha for PRO-SDLS	109
8.	Means & Standard Deviations of Dependent Variable Initiative	110
9	Means & Standard Deviations of Dependent Variable Control.....	111
10.	Means & Standard Deviations of Dependent Variable Motivation.....	112
11.	Means & Standard Deviations of Dependent Variable Self Efficacy.....	113
12.	Wilk’s Lambda for Q32	115
13.	Means & Standard Deviations for Q 32	116
14.	Pillai’s Trace for Q33.....	117
15.	Univariate ANOVA of Between-Subjects Effects for Q33	118
16.	Means & Standard Deviations for Q33.....	119

LIST OF ILLUSTRATIONS

Figure

1. Years of teaching experience104

CHAPTER I

INTRODUCTION

“If Sisyphus were a scholar, his field would be education.”

David Labaree, education historian, (1998)

Soon after the United States won its independence from England, Thomas Jefferson began championing what would have been a novel concept with his contemporaries in Europe – a universal education for all citizens to prepare them to participate in a democracy. Public education was not a reality for all citizens in the United States until the end of the 19th century, and educating these young citizens has been the charge of teachers since the late 1800s. While a teacher’s classroom make-up and size may have changed a great deal in terms of students’ ethnicity, socio-economic status, age, and ability since the 19th century, one thing has remained constant: teachers are held responsible for student outcomes, regardless of the student’s ability level, motivation, or parental support. According to researchers (Hanushek & Rivkin, 2010; Rockoff, 2004), quality teaching improves student learning outcomes (Lewis, 2009), and teachers are the single most important factor in raising student achievement (Wenglinsky, 2000). Yet while the collective culture gives assent to the importance and value of the teacher – the “occupation that makes all others possible” (Teaching at Risk, 2006, p. 15) – most educational reform movements and professional development programs remain focused on student outcomes, often to the exclusion of teachers as learners themselves (Hawley & Valli, 1999). Despite evidence that teachers are adult learners and should be taught as such (Drago-Severson, 2011), there is an ongoing disconnect between professional development providers and the needs of teacher-learners (Blumenfeld, Fishman, Krajcik, Marx, & Soloway, 2000). This disconnect between teachers being

recognized as professionals and adult learners and the methods that inform the professional development they are provided with has a negative impact on the teaching profession. If trainers and professional development coordinators do not recognize and accommodate the ways in which adults learn, their programs will not be as effective (Oja, 1980; Smith & Gillespie, 2007).

Traditionally public education's success or failure is measured in terms of outcomes (i.e. student learning). An educator is considered a "success" if his or her students achieve a certain percentage correct on whatever standardized test is currently in vogue, even though current research indicates measures of teacher effectiveness can be significantly different depending on which statistical methods are employed (Darling-Hammond, Amrein-Beardsley, Haertel, & Rothstein, 2012). Unfortunately, one of the many unplanned side effects of using standardized test scores rather than multiple methods to measure success has been the impact on teachers' sense of self-efficacy, their belief in their ability to teach well, to be recognized as professionals, and to make an impact on students' lives. McDonald (2001) noted that teachers often perceive their success in relationship to student assessment measures. Bandura (1986) defined self-efficacy as "people's judgments of their capabilities to organize and execute courses of action required to obtain designated types of performance" (p. 13); in other words, a person's belief in his or her ability to perform a task successfully. Self-efficacy affects not only an individual's choice of activities; it also determines the amount of effort and persistence someone will dedicate to that activity.

The current trends created with the implementation of the No Child Left Behind Act of 2001 (NCLB) have contributed to many teachers in the United States rating their

own success (or failure) based almost solely on their students' ability to perform optimally on a standardized test. Teachers' sense of self-efficacy, thus, may be based in large part on a number of variables outside their control, such as the strength of their students as test takers and the factors that influence student performance, such as students' home lives, sleep patterns leading up to test week, and motivation (McDonald, 2001). While the No Child Left Behind Act (2001) legislation demands that teachers be able to demonstrate student gains, current accountability measures may not be measuring everything teachers are capable of doing in their classrooms. Ironically, these measures of teacher effectiveness are not used to inform professional development designed for educators (Reform Support Network, 2011).

As recently as the 1980s, the general assumption was that teachers were expected to enforce classroom discipline and impart knowledge to supposedly eager and willing learners (Hinds, 2002), echoing an educational sentiment from the 1830s that the most important characteristic of a teacher was the ability to maintain order in the classroom (Sedlak, 1989). According to Arthur Levine, former president of Teachers College at Columbia University, teachers in the 21st century are charged with a far more daunting task. They must

know about children's development, different learning styles, pedagogy and the plethora of different ways for reaching children, curriculum, assessment, classroom management, ways to teach students who don't speak English and children who have disabilities – and, of course, the teacher must know the subject matter well. Apart from that, the job is pretty easy. (as cited in Hinds, 2002, p. 3)

This Herculean job description has contributed to a decline in the willingness of the “nation’s best and brightest” to enter the teaching field and to stay in the field (Teaching at Risk, 2006, p. 16). Since 1994, turnover in beginning teachers has increased over 40% (Carroll, Fulton, & Doerr, 2010) and up to 46% of teachers leave the profession within five years. Top reasons, according to the National Commission on Teaching and America’s Future (Carroll et al., 2010), are “lack of support, lack of influence, classroom intrusions, and inadequate time to collaborate” (p. 5), all of which undermine teachers’ sense of self-efficacy and effectiveness.

Professional development is defined as any experience that improves teacher knowledge, informs pedagogy, and contributes to personal and professional growth (Cohen, McLaughlin, & Talbert, 1993). The No Child Left Behind Act (2001) mandates that districts offer teachers professional development focusing on content knowledge sufficient to meet the requirements of teachers being *highly qualified* (U.S. Department of Education, 2010). This legislation defines high quality professional development as activities that “improve and increase teachers’ knowledge of the academic subjects that teachers teach,” yet content knowledge makes up only one facet of effective teaching practices (No Child Left Behind, 2001, n.p.). The Teaching Commission’s report *Teaching at Risk: A Call to Action* (2004) reiterated the importance of subject area knowledge, but includes “opportunities for collaboration so that teachers can learn from each other [and] share effective, research-based techniques that can be cycled back into classroom teaching to improve student learning” (p. 49), a sentiment echoed by Desimone (2011) who emphasized the importance of teachers participating in “professional development activities [in order] to build an interactive learning

community” (p. 69). Cochran-Smith and Lytle (2001) defined the purpose of professional development as developing an “inquiry stance on teaching that is critical and transformative, a stance linked not only to high standards for the learning of all students, but [also] to the individual and collective professional growth of teachers” (p. 46).

Despite calls for education reform over the past 50 years, not much seems to be changing in the ways professional development is handled in schools. McDonald (2001) observed that many schools are in “a state of crisis instilled by external demands for accountability” (p. 211), and deficit reform models focus on outward change – things that can be measured quantitatively, like test scores and the number of in-service days a teacher attends. In the Introduction to *Team Up for the 21st Century Teaching and Learning*, Carroll stated that “Education is frequently fragmented and disconnected. This fragmentation prevents any substantial education reform from taking place because changes in one area do not affect another” (Carroll et al., 2010, p. 4). In much the same way, fragmented professional development, what Wilson and Berne (1999) called a “patchwork of opportunity,” will not stimulate the types of changes needed in order for teachers and students to be successful (p. 174). While Guskey and Sparks (2002) emphasized the colossal nature of the task facing schools if they are to meet the demands of No Child Left Behind (2001), pressure from NCLB has not been effective in creating lasting change in how professional development is delivered to American teachers (Finnigan & Gross, 2007). DeMonte (2013) called professional development the “link” between the implementation of educational reform and its ultimate success (p. 2).

Current models of teacher professional development tend to be short-lived and lack continuity, often providing isolated and unrelated pieces of information that cannot

be translated into classroom practice (Elmore, 2002; Guskey, 2000). If a teacher wants to apply the material in the classroom, there is often no one available to provide feedback or suggestions for improvement (Joyce, Wolf, & Calhoun, 1993). These models of professional development do not address how teachers learn (Ball & Cohen, 1999; Putnam & Borko, 2000). Because no attempt is made to link professional development with the learning needs of adult teachers, these efforts do not foster learning transfer (i.e. the participant exhibits “observable changes in knowledge, skills and attitudes”), so that new ideas being promoted are not applied by teachers in their classrooms (Caffarella, 2002, p. 205).

In spite of a growing body of research that supports the need for teacher collaboration and reflection (Hord, 1997; Schön, 1983; Trotter, 2006), many school professional development programs are continuing with the traditional one-size-fits-all format. After school or in-service day trainings are geared toward an entire group of teachers, from a single school or school district, regardless of subject matter or the grade level they teach (Rényi, 1998; Rivero, 2006). According to Rhoton and Stile (2002), most professional development does not develop teachers as it should. Feiman-Nemser (2012) identified traditional professional development as “superficial, episodic sessions” that do nothing “to help teachers bring new knowledge to bear on practice or generate new knowledge in practice” (p. 135), while Sykes (1996) rated models of professional development as “the most serious unsolved problem for policy and practice in American education today” (p. 465).

Nash (2011) observed that while K-12 research promotes students working collaboratively, tackling real world problems and finding solutions through the

combination of knowledge and critical thinking, traditional models of professional development confine teachers to auditoriums or classrooms and require them to listen to a lecturer disseminate information they supposedly need to acquire (Feiman-Nemser, 2012). In this model, knowledge is provided by the expert and the teacher is treated as the novice, even though this approach to learning is considered the least effective for adults (Lieberman, 1994). Professional development for K-12 educators is often framed within a deficit model; teachers rely on external experts to deliver the information they need, a practice in direct opposition to the ways adults learn (Feiman-Nemser, 2001, 2012; Webster-Wright, 2009). Even the terminology “development of professionals implies a deficiency discourse” (Webster-Wright, 2009, p. 725). This “deficiency discourse,” however, did not originate with NCLB. McLaughlin and Berman, writing in 1977, asserted that staff development programs were often “irrelevant, ineffective and generally a waste of time [and] a hodgepodge of incompatible workshops and courses” (p. 191). These programs generally do not promote professional learning because the “why” (theory) and the “how” (actual practice) are disconnected (Schön, 1987).

Many teachers attending a traditional professional development session use very little of the session’s content in their classrooms (Smith & Gillespie, 2007). In fact, Lockwood, McComb and Marsh (2010) estimated that as few as 15% of teachers implement what they learned. In 2001, the National Center for Educational Statistics (NCES) published *Teacher Preparation and Professional Development: 2000* in which they reported that teachers typically spent a day or less in professional development during the year preceding the survey; only teachers who reported participating in follow-up sessions (which ranged between 2% and 11%) indicated that professional

development improved their teaching practices (Parsad, Lewis, & Farris, 2001). Reflection on practice is an essential component of professional practice (Brookfield, 1995; Schön, 1983; Trotter, 2006). Traditional models of professional development typically do not provide feedback or encourage teachers to think reflectively, and “without feedback, there is little motivation to monitor one’s current level of understanding and preparedness particularly if there are no opportunities to revise based on one’s assessment” (Hill & Kirkwood, 2005, p. 468). This lack of reflection on how teachers learn and how they practice impedes the possibility that the new information will become part of the teacher’s pedagogy.

Fullan (2001) stressed that effective professional development must be an integral part of practice, sustained, and collaborative. Research indicates that “when teachers are given the time and tools to collaborate they become life-long learners, their instructional practice improves, and they are ultimately able to increase student achievement beyond what any of them could accomplish alone” (Carroll et al., 2010, p. 10). Killion and Hirsh (2012) emphasized that teachers learn more when they collaborate with other teachers (as opposed to learning on their own). Teachers who have opportunities to collaborate with each other are more likely to share their knowledge with other educators (McLaughlin & Talbert, 1993). If professional development is essential to quality teaching, then school administrators need to know what effective professional development looks like and how to sustain it (Cowan, 2009).

Statement of the Problem

Education reform initiatives can be problematic and ineffective if they seek to champion student achievement while virtually ignoring the role professional development

plays for teachers who are charged with equipping students for success (Engstrom & Danielson, 2006; Guskey, 2002). Many current models of professional development do not address teachers as adult learners or seek to impact their efficacy. While research from the 1980s and 90s indicate that job-embedded professional development has a positive correlation with teacher efficacy (Little, 2002), there is a lack of rigorous research exploring how job-embedded professional development that recognizes teachers as adult learners influences their efficacy and identity (Lewis, 2002b; Lewis, Perry, & Murata, 2006).

Conceptual Framework

Self efficacy, identity, adult learning, and the importance of collaboration are complex subjects, therefore, multiple theoretical frameworks, including constructivism and adult learning theory, inform this research study. Adult education differs from K-12 education in many ways, and Knowles (1980) contended that there are five specific ways in which adults differ from children in their learning: adults are self-directed; they are problem-centered (i.e., they need to know why they are learning what they are learning and how it applies to a perceived need or problem); they bring with them varied background experiences, and these life experiences influence their learning; they are generally motivated by intrinsic factors, and they have a strong sense of self. Kearsley (1996) reiterated the importance of participants actively engaging in the learning process rather than the instructor simply telling them *about* the information. Likewise Trotter (2006) contended that teachers need to determine the direction of their learning. Much of the current dissatisfaction with traditional professional development stems from its failure to recognize teachers as adult learners (Desimone, Smith, & Ueno, 2006).

Pedagogy is the art and science of helping children learn, while androgogy is “the art and science of helping adults learn” (Knowles, 1980, p. 43). Knowles maintained that adults learn differently than children; therefore, the methods and materials used with adults must differ as well. While Merriam and Brockett’s (1997) definition of adult education as “activities intentionally designed for the purpose of bringing about learning among those whose age, social roles, or self-perception define them as adults” (p. 7) is generally accepted, there are a myriad of other definitions of the types of learning that constitute *adult learning*. Often adult education is thought of only in terms of adult basic education classes such as GED preparation or literacy programs, but this is not an accurate picture of all facets of adult learning.

Knowles (1980) generated a typology of four types of organizations where adult learning occurs: Type I organizations provide K-12 or higher education and may offer adult education programs as a secondary mission (e.g., public schools and community colleges that offer adult basic education courses as a secondary mission); Type II organizations provide adult basic education (e.g., GED programs); Type III organizations are community based and may offer adult learning opportunities as part of a larger program (e.g., libraries and museums); and Type IV organizations, which utilize adult education methods to meet organizational needs rather than promote adult learning, *per se*. Professional development for teachers falls under the Type IV umbrella, yet “many who practice adult education do not identify with adult education as a field because they do not see its relevance to their work and the learners they serve” (Imel, Brockett, & James, 2000, p. 632). Most, if not all, traditional professional development models focus on teachers as K-12 learners; although researchers concur that effective professional

development should incorporate the principles of adult learning (Tibbetts, Kutner, Hemphill, & Jones, 1991). Fogarty and Pete (2010) underscore the fact that “adult learners have preferences and predilections that make them different from other learners. That is especially true for teachers who are seeking professional development” (p. 32).

One key aspect of teacher professional development is the role it plays in teacher identity. Professional identity is a person’s perception of themselves as they are and as they see themselves becoming; the way a teacher views herself or himself in connection with colleagues, community, and society. Coldron and Smith (1999) explained it thus:

From the beginning of, but also during, their careers, teachers are engaged in creating themselves as teachers. Being a teacher is a matter of being seen as a teacher by himself or herself and by others . . . acquiring and then redefining an identity that is socially legitimated. This process begins with the conferment of qualified status on teachers and it continues in the way colleagues, children and parents respond to them. (p. 712)

It is important to examine the role professional development plays in professional identity since, “teachers’ perceptions of their own professional identity affect their efficacy and professional development as well as their ability and willingness to cope with educational change and to implement innovations in their own teaching practice” (Beijaard, Verloop, & Vermunt, 2000, p. 750). Day (2000) noted that teacher professional identity has been absent in most educational reform, and this omission contributes to a heightened sense of de-professionalization among teachers. Although teachers share specific knowledge and professional skills, research has not identified a single identity that all teachers share (Diniz-Pereira, 2003); rather, their professional identity is often shaped by public

perception (i.e., the ways that parents, colleagues and administrators respond to them) (Beijaard, Meijer, & Verloop, 2004), their lack of autonomy (Hargreaves, 2000), and the ongoing debate among policy makers as to whether or not teaching should be recognized as an actual profession (Sachs, 2001).

Professional Learning Communities

Effective professional learning occurs best when it is part of a community that supports learning (Darling-Hammond, 1997; Garet, Porter, Desimone, Birman, & Yoon, 2001; Wenger, 1998). One type of professional development, the professional learning community, can be instrumental in aiding teachers in developing a sense of professional identity, strengthening efficacy, and engaging in the type of critical reflection that Mezirow (2000) identified as a distinguishing characteristic of adult learners. However, it is important to note that the term “professional learning community” has become a catch-all phrase to define every type of school-based learning group; as DuFour (2004) observed, “the term [professional learning community] has been used so ubiquitously that it is in danger of losing all meaning” (para 2).

DuFour and Eaker (1998) are credited with coining the term “professional learning community” and defined it thus: “educators [creating] an environment that fosters mutual cooperation, emotional support, and personal growth as they work together to achieve what they cannot accomplish alone” (p. xii). Professional learning communities and communities of practice are similar in nature: both involve groups of practitioners who share a common interest, help one another through discussion, share information, and maintain sustained interaction (Wenger, 1998). Professional learning communities are characterized by their focus on collaborative teams, shared inquiry,

collective learning, and a cycle of continuous improvement (DuFour & Eaker, 1998; Hord, 2004) whereas communities of practice are “groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis” (Wenger, McDermott, & Snyder, 2002).

In their review of the literature, Blankenship and Ruona (2007) acknowledged schools’ tendency to use the terms interchangeably, but they emphasized the importance of differentiating between professional learning communities and communities of practice if schools are to implement either effectively. Professional learning communities look to leadership outside the group, usually from administrators, while communities of practice are more “grassroots” in their leadership focus, preferring members of the group to assume leadership roles. In addition, Blankenship and Ruona (2007) noted that professional learning communities are characterized by group learning that is student focused (i.e. needs and achievement) and collaborative work that leads to school improvement. Communities of practice generally are committed to individual improvement of practice. Hulley (2004) and Sackney and Mitchell (2001) added that teacher learning is as important as student learning within a professional learning community.

Current literature supports the use of professional learning communities to build teacher efficacy and improve student learning (Chokshi & Fernandez, 2005). Lesson study is recognized as a valid form of professional learning community and was introduced to the United States from Japan more than decade ago (Lewis, 2009). Lesson study differs from other types of professional learning communities because of its use of

study lessons. According to Chokshi and Fernandez (2005), lesson study involves a group of teachers coming together with a common goal, and then creating a lesson that will help students achieve that goal. The participating teachers watch as the lesson is taught by a colleague, and then give feedback on the lesson's effectiveness and suggestions for improvement. The lesson may then be taught by another teacher and re-evaluated through the same reflective process. This reflective cycle of planning, teaching, modifying, and re-teaching is what makes lesson study unique among professional learning communities.

While lesson study incorporates elements common to both professional learning communities and communities of practice, one of the two school districts where this research study took place uses the term professional learning community to describe lesson study; therefore, the term professional learning community was used when discussing lesson study in this research.

Lesson study is dependent on collaboration and self-reflection if it is to be successful. Vygotsky's theory of social constructivism (1978) emphasizes the social nature of knowledge acquisition and provides the theoretical framework for this study. Authentic learning does not occur in isolation but through social interaction. Through social interaction, professional discourse, self reflection, and collaboration, individuals come to make meaning of the world around them (Creswell, 2007). While the social nature of knowledge acquisition is significant, the theory of social constructivism also emphasizes that learning enables a learner to organize experiences (Blumenfeld, Marx, Patrick, Krajcik, & Soloway, 1997) and is the result of critical reflection (Blumenfeld et al., 2000). Interaction with multiple, varied perspectives (Cranton, 2009) is the first step

in critical reflection, and this type of reflection is essential to the growth of a professional learning community such as lesson study.

Eraut (1994) called for continuing research on how professional development directly effects teacher efficacy. Hall and Hord (2006) noted that members of professional learning communities experience increased efficacy, while Danielson (2002) emphasized the sense of respect that teachers gain from participating in a professional learning community. As Royce (2010) reflected, “most professional development for educators has barely changed since the late 1950s and 1960s” (p. 6), so school districts and administrators’ utilization of the most effective modes of professional development is essential in this era of accountability. While interest in lesson study continues to grow in the United States, many districts have been reluctant to adopt it, or other types of professional learning communities, because of the amount of time that must be invested if job-embedded professional development is to be successful (Murata, 2011). Examining teachers’ beliefs about self-efficacy and professional identity through their involvement in lesson study and professional learning communities will contribute to the growing body of research on effective types of professional development for teachers. This study will also contribute to the literature on adult education and professional development. Many program planners do not see themselves as adult educators and do not recognize that the teachers they serve should be taught as adults, not K-12 learners (Imel et al., 2000).

Utilizing data bases and information provided by multiple websites (e.g. the Lesson Study Research Group at Teachers’ College, Columbia University; the Chicago Lesson Study Group; the Lesson Study Project at University of Wisconsin-La Crosse;

and the Center for Lesson Study at William Patterson College), the researcher could only find evidence of 20 states which have school districts participating in lesson study since 2006, and only one district in the state of Mississippi appears to actively uses lesson study throughout the entire district.

Nature of the Study

This two-phase sequential mixed methods study (Creswell, 2009) sought to examine the sense of self-efficacy and professional identity of teachers from two school districts that participate in traditional professional development and in professional learning communities. In Phase One of the research study, the qualitative case study method (Merriam, 2009) was used to interview two distinct groups of teachers from one school district: the English department and the Career and Technical Education department. These two groups fit the definition of a bounded system in a particular context because they all teach at the same high school and participate in school-wide professional development activities. Rock (2005) asserted that the qualitative case study “is the most appropriate research approach for this type of study because of the nature of the study and the intent of the researcher to gain an in-depth understanding of the lesson study process and its meaning for teachers through their own voices and words” (p. 1).

Phase Two of this research study involved sending a modified version of the Personal Learning Orientation to Self Direction in Learning Scale (PRO-SDLS) (Stockdale & Brockett, 2011) via electronic means to approximately 600 teachers in two school districts. This survey is designed to measure self-efficacy and adult learning as exhibited via self-directed learning.

Purpose of the Study

The purpose of this two-phase sequential mixed methods study was to research the relationship between professional development, including job embedded professional development in the form of a professional learning community and/or lesson study, and teacher self-efficacy and identity as perceived by 22 teachers from a school district in a small rural area in the southern United States. The interviews were conducted face to face using an interview protocol written by the researcher (Appendix A). Before the interviews were conducted, participants signed an Authorization to Participate in a Research Project form that provided information on the purpose of the study, benefits, risks, and confidentiality (Appendix B). In addition, 171 teachers representing two school districts completed an electronic survey, the Personal Responsibility Orientation to Self Direction in Learning Scale (PRO-SDLS) (Stockdale & Brockett, 2011) (Appendix C), which was modified by the researcher, with permission from the instrument's authors (Appendix D), designed to measure self efficacy and self-directed learning.

Research Questions

The following qualitative research questions were used to guide this study:

1. What similarities and differences exist between the teachers who participate in the qualitative interviews who participated in traditional professional development and the teachers who participated in the interviews who also participate in lesson study, specifically their perceptions of their efficacy, professional identity and the value of the professional development in which they participate?

2. Among the lesson study group, how will teachers describe themselves as professionals and as adult learners?
3. Among the non-lesson study group, how will teachers describe themselves as professionals and as adult learners?

The following quantitative research questions were used to guide this study:

4. How will the efficacy of teachers who participate in their district's mandated professional development and a professional learning community and/or lesson study compare to the efficacy of teachers who participate only in the professional development provided by their school district as measured by the PRO-SDLS?
5. How will self-directed learning, as measured by motivation, initiative, and control, of teachers who participate in their district's mandated professional development and a professional learning community and/or lesson compare to the self-directed learning of teachers who participate only in the professional development provided by their school district as measured by the PRO-SDLS?

Research Hypotheses

The hypotheses developed for this study included the following:

1. Teachers participating in some form of a professional learning community will have higher self-efficacy scores than teachers who do not participate in a professional learning community.
2. Teachers who participate in a professional learning community will have higher self-directed learning scores than teachers who do not participate in a professional learning community.

3. Teachers who participate in lesson study will have higher self-efficacy and self-directed learning scores than teachers who participate in a different type of professional learning community.

Assumptions, Limitations, Scope and Delimitations

The study involved teachers from two separate school districts who participated on a voluntary basis. One assumption was that participants were honest and accurate when answering interview questions and when completing the PRO-SDLS. Another assumption was that school districts want to offer effective professional development.

A limitation inherent in this study was that only two school districts were studied and the study can only be generalized to school districts similar to these. The researcher is a member of the faculty of one school district she observed and has participated in lesson study during her six years as a teacher in this district; she has a professional interest in lesson study as an effective form of job-embedded professional development. Another limitation in the study was the subjectivity present when participants answer open-ended interview questions regarding their sense of professional identity and the perceived benefits of participating in a professional learning community.

The delimitation of this study was that it included only the faculty from two school districts; therefore, it may not be possible to generalize the results to other teachers and schools.

Definition of Terms

The following terminology will be utilized in this study:

1. *Andragogy*: the art and science of teaching adults (Knowles, 1980).

2. *Career and Technical Education (CTE)*: secondary vocational classes supported by the Carl Perkins Act of 2006. These classes focus on trade skills such as informational technology, culinary arts, allied health, construction, and others.
3. *Core Area Subjects* – English, history, math, and science, subjects that require a state examination in order to graduate high school.
4. *Highly qualified teacher* – one who is certified, holds a bachelor’s degree and has demonstrated competence in the core academic subject area (No Child Left Behind Act, 2001).
5. *Lesson study*: a Japanese model of teacher-led professional development based on teacher inquiry and reflection (Chokshi & Fernandez, 2005; Lewis, 2000).
6. *No Child Left Behind* – a legislative, standards-based reform of the *Elementary and Secondary Education Act*, enacted on January 8, 2002, designed to improve student achievement and ensure all students met the same standards in math and reading by 2014.
7. *Professional development*: the formal and informal learning activities and experiences intended to advance a teacher’s subject area knowledge, pedagogy and practice (Guskey, 2000).
8. *Professional learning community (PLC)*: “a group of people sharing and critically interrogating their practice in an ongoing, reflective, collaborative, inclusive, learning oriented, growth promoting way, operating as a collective enterprise” (Stoll, Bolam, McMahon, Wallace, & Thomas, 2006, p. 223).

9. *Reflection*: “the process of stepping back from an experience to ponder, carefully and persistently, its meaning to the self through the development of inferences” (Daudelin, 1996, p. 39).
10. *School district rating system*: the Mississippi Department of Education enacted a rating system in 2012 that ranks schools and school districts with performance ratings of *A, B, C, D, or F*. An *A* rating is the highest a school or district can earn, and this rating is based on school performance on the state’s accountability measures. (Mississippi Department of Education, 2012).
11. *Self-directed learning*: a process in which the learner takes primary responsibility for the learning experience (Brockett & Hiemstra, 1991). In this study, self-directed learning will be measured by the PRO-SDLS survey instrument (Stockdale & Brockett, 2011).
12. *Self efficacy*: a person’s belief in his or her ability to successfully complete a particular task (Bandura, 1986). In this study, self-efficacy will be measured by the PRO-SDLS survey instrument (Stockdale & Brockett, 2011).

Summary

The professional development offered by many school districts has proved ineffective in meeting the needs of teachers as adult learners (Marzano, Waters, & McNulty, 2005). Often, the perceived effectiveness of any given professional development program is based on improving student outcomes and not on the teachers growing as professionals and learners themselves. Professional development should encourage teachers to be responsible for their own learning (Bransford, Brown, & Cocking, 1999) and should be aligned with their work in the classroom (Garet et al.,

2001). If these factors are in place, student outcomes can be positively affected (Scribner, 1998), since educational reform success is closely tied to effective professional development (DeMonte, 2013). Researchers acknowledge the importance of additional research and evaluation studies in the area of professional learning as it relates to educational practice and student outcomes (Mizell, Hord, Killion, & Hirsh, 2011). According to Smith and Gillespie (2007), there is a need for further research comparing outcomes for teachers participating in embedded and traditional forms of professional development. One form of embedded professional development is the professional learning community, which Huffman and Hipp (2003) identify as essential to successful reform efforts. Professional development that incorporates adult learning theory and recognizes the roles self-efficacy and identity play in teacher learning is the kind of professional development that will bring about the types of changes current educational reform calls for. Rigorous research is needed to evaluate types of professional learning that impact teacher and student learning and success (DeMonte, 2013), research that can be used in the planning of future professional learning opportunities for educators, opportunities that will lead to real, sustainable changes in the way teachers learn and teach, rather than the Sisyphean-type reform that has left educators weary, yet no better off than when they began (Labaree, 1998).

CHAPTER II

REVIEW OF THE LITERATURE

“No other people ever demanded so much of schools and of education as have the Americans”

Henry Steele Commager, historian, (1951)

In January of 2012, The Center on Education Policy (CEP) published a report, authored by Jack Jennings, its president and CEO, titled *Reflections on a Half-Century of School Reform: Why Have We Fallen Short and Where Do We Go From Here?* In it, Jennings reflected on the three major reform movements that have followed the Elementary and Secondary Education Act of 1965 and how all of them failed to fulfill their original promises to America and her children. Jennings argued that these reforms failed because they sought to change the classroom from the outside in; in this newest era of educational reform, he states that the Common Core State Standards must be implemented from the inside out. To do this means a complete rethinking and reshaping of the face of the American educational system, from the United States Department of Education, to the colleges of education which train pre-service teachers, to individual classrooms across the nation.

Simply defined, the Common Core State Standards are “shared national standards ensuring that students in every state are held to the same level of expectations that students in the world’s highest performing countries are” (Kendall, 2011, p. 1). With the Common Core State Standards comes a greater need for effective professional development for educators. In fact, without the “deep learning they [teachers] will need to transform the way they work,” this attempt to create a national framework for student learning will become a “fundamental contradiction” (Hirsh, 2012, p. 22). Hirsh’s warning

sounds familiar as previous researchers made similar charges over a decade ago, emphasizing the importance of teacher learning and support for that learning in conjunction with new educational reforms (Ball & Cohen, 1999; Putnam & Borko, 1997; Wilson & Berne, 1999). Feiman-Nemser (2012) warned that traditional types of professional development will not support the needs of teachers as adult learners under Common Core State Standards, so if school districts are still focused on investing in teacher learning via the least effective means of professional development – the short-term workshop – as Wei, Darling-Hammond, and Adamson (2010) reported, one wonders if the Common Core State Standards will follow in the footsteps of its reform predecessors.

This new emphasis on research-based professional learning, plus the introduction of the Common Core State Standards across the nation, creates an opportunity for real change to take place within schools in the area of teacher professional learning, if schools are willing to invest the time and money needed for that change to occur. This research study focuses on one specific type of professional development, lesson study, as a means of building teacher self-efficacy and professional identity, recognizing that teachers are adult learners. Since Common Core requires that literacy and math skills become integrated cross-curriculum, schools may be more open to new forms of professional development in order to prepare their teachers to meet those standards. This study hopes to provide more literature on one research-based method of accomplishing that goal.

This literature review provides a short review of the literature on teacher identity as it relates to self efficacy and professional development. It focuses on the research on teacher professional development in the past two decades, lesson study as a form of

professional development and the benefits of embedded professional development versus the more traditional professional development (e.g. professional learning communities & lesson study) that has been the norm in American education for the past century. It also reviews the literature on teacher self-efficacy and provides a brief overview of the literature on reflection. Because professional development is a form of adult education, this literature review also examines how teachers have been taught (or not taught) as adult learners in different models of professional development and the role adult learning theory plays in effective professional development models.

One of the positive effects of the move to Common Core Standards is the embedded call for teachers to be recognized and treated as professionals. Since the eighteenth century, educators have struggled to reconcile the great contradiction of serving a nation that holds education in high esteem yet views the teacher as someone serving in a second-rate occupation or “classless profession” (Mattingly, 1975, p. 1). In 1787, Thomas Jefferson wrote to James Madison saying, “Above all things, I hope the education of the common people will be attended to, convinced that on their good sense we may rely with the most security for the preservation of a due degree of liberty” (Dexter, 1906, p. 58). Jefferson knew that a nation could not be free while its citizens remained uneducated, for in expecting “to be ignorant and free, it expects what never was and never will be” (Wagoner, 2004, p. 14). George Washington also promoted education as an object of primary importance, while John Jay, first Chief Justice of the United States, is credited with saying that knowledge was the very soul of the Republic. While the importance of education has been evident from the very foundations of this nation,

some researchers suggest that there are “renewed efforts to de-professionalize teaching . . . to devalue teacher experience and knowledge” (Lieberman & Miller, 2001, p. viii).

“*Those who can, do. Those who cannot, teach*” has become as ingrained in the American psyche as the image of an apple on every teacher’s desk. George Bernard Shaw’s infamous 1903 quotation may have served as the proverbial nail in the coffin for the way the public views teachers, but educators struggled to gain respect as professionals long before the turn of the century. Prior to the establishment of normal schools in the mid-19th century, anyone with a grammar school education could become a teacher, and teaching usually served only as a stepping stone to another profession such as law or medicine. It was not viewed as a profession of its own (Mattingly, 1975). According to Labaree (2008), there were three main factors influencing the stigma attached with teaching: the common school movement was instrumental in turning the profession into women’s work, and “becoming defined as women’s work has never helped the status of an occupation” (p. 298); it was not an exclusive profession, rather it was a mass occupation, serving the lowest members of society (i.e. children); and it was an “extraordinarily difficult job that looked easy, which [was] a devastating combination for its professional standing” (pp. 298-299). Or as the National Commission on Teaching & America’s Future observed: “In the United States, teaching has long been viewed as little more than a combination of glorified babysitting and high level clerical work” (*What Matters Most*, 1996, p. 14).

In 2002, the Carnegie Challenge published *Teaching as a Clinical Profession: A New Challenge for Education* and highlighted the great divide between what teachers know and do and what the nation understands and appreciates about the teaching

profession (Hinds, 2002). Loughran, Mitchell, and Mitchell (2003) further noted that teachers use knowledge and skills that aren't readily noticeable, leading to the perception that anyone can do the job. The disconnect between public perception of what teachers do and know versus what actually takes place within classrooms and during professional development has contributed to the undermining of the teacher as a respected professional.

Professional Identity

When asked, teachers often differentiate between being professional and being a professional (Helsby, 1995). Being professional is associated with what teachers do – their classroom behavior and mannerisms, the way in which they conduct themselves with colleagues, administrators, and parents. The teacher's focus is introspective. Englund (1996, p. 75) referred to this as “professionalism.” Being *a* professional, however, is related to the way in which others see (or are perceived as seeing) the teacher within the context of the educational world (Hargreaves, 2000). Coldron and Smith (1999) referred to this as being “socially legitimated” (p. 712), a sentiment echoed by Bullough's (2005) declaration that recognition is an essential component of identity formation.

A great deal of attention has been given to the subject of teacher professional identity in the last decade (Cohen, 2010/2011). Researchers have explored the role reflection plays in teacher identity (Alsup, 2006; Beijaard et al., 2000; Burns, 2007); the relationship between teacher identity and professional practice and commitment (Burns, 2007; Day, Elliot, & Kington, 2005); and the impact a constantly changing landscape of education reform has had on teacher identity (Hargreaves & Dawe, 1990; MacLure,

1993). Cohen (2010/2011) conducted a qualitative study on the impact professional discourse has on teacher identity. Findings from her study suggest that meaningful conversations with colleagues play a significant role in how a teacher's identity develops; supporting Gee's (1999) supposition that identity develops as a shared or communal experience. Unfortunately, most school schedules are not designed to accommodate teacher dialogue about professional practice during the course of a school day (Liebermann & Miller, 2001).

Although teachers share specific knowledge and professional skills, research has not identified a single identity that all teachers share (Diniz-Pereira, 2003). Rather, their professional identity is often shaped by public perception (i.e., the ways that parents, colleagues and administrators respond to them) (Beijaard et al., 2004), their lack of autonomy (Hargreaves, 2000), and the ongoing debate among policy makers as to whether or not teaching should be recognized as an actual profession (Sachs, 2001).

With these commonly held views, it is little wonder that teachers have rarely been entrusted as part of educational reform conversations. In fact, much of educational reform has been designed to make classrooms "teacher-proof" (Greene, 1996, p. 9), in spite of the knowledge that decisions impacting how and what teachers do in their classrooms should not be dictated by those who are not in education (Darling-Hammond, 1997, p. 67). Strauss (2010) provided a grim reminder of the public's perception regarding the value of teacher input into their own profession: "few if any classroom teachers were involved in the drafting of the [Common Core State] standards [and] none were asked to help draft the No Child Left Behind law in 2001" (n.p.).

In the 1980s, reform that emphasized creating schools of professional development generated concerns from the public that teachers would become *empowered* and therefore unaccountable [emphasis added] (Tripp, 1993). The National Research Council (2010) noted that even teacher preparation programs are often treated as an “afterthought in discussions of improving the public educational system” (p. 7), perhaps because the “low status of teacher education . . . [is] directly related to the inability of the teacher education community to take seriously the task of professional development for its members” (Russell & Korthagen, 1995, p. 191). So while Americans may tell pollsters that “teachers, more than doctors, nurses, lawyers and some other professionals, provide the most benefit to society” (Haselkorn & Harris, 1998, p. 13), much of the evidence seems to contradict that response.

After October 4, 1957 – the day Sputnik was launched – America experienced a renewed interest in science education, especially after science-fiction writer Arthur C. Clark commented that the satellite’s orbit had reduced America to a “second-rate power” (as cited in Schrag, 2007, n.p.). By January of 1958, America had entered the space race with the launch of Explorer 1; before the year ended, the National Defense Education Act of 1958 had been enacted, injecting more than a billion dollars into science education (Abramson, 2007). America’s educational system came under a new kind of scrutiny. How did American children compare with the rest of the world in the areas of mathematics and science? The era of school reform was born, and teachers have struggled to meet its demands ever since (Cavanagh, 2012). During his State of the Union address on January 25, 2011, President Obama likened current world events and the

economy to this generation's *Sputnik moment* and encouraged the nation to invest more heavily in American education (Hart, 2011).

Professional Development of Teachers

In 2011, the National Staff Development Council (NSDC) rewrote the definition of professional development and pushed for proposed amendments to Section 9101 (34) of the Elementary and Secondary Education Act as reauthorized by the No Child Left Behind Act of 2001. In the amendment, the definition of professional development is expanded and contains specific, research-based standards: "The term 'professional development' means a comprehensive, *sustained*, and intensive approach to improving teachers' and principals' effectiveness in raising student achievement;" other key phrases from the new definition include *collective responsibility*, [the need for its] *occurring several times per week among an established team of teachers* [who are] engaged in a *continuous cycle of improvement*, and [are] *implementing evidenced-based learning strategies such as lesson study* (emphasis added) (NSDC, 2011). However, without real change taking place in how professional development is implemented in our nation's schools, President Obama's charge to invest in education will ring hollow as the next generation of researchers decry the state of America's schools.

Teacher in-service training has never been a utopia for educators. In fact, Guskey (2000) observed that teachers have seldom had any input in the types of professional development they would like to receive and found most offerings were not directly applicable to their practice. As early as the mid-1970s, Dillon (1976) reported that staff development topics were selected based on public criticism and disenchantment with the way schools were being run; teachers lacked a clear sense of what was expected of them

during these in-service trainings. However, staff development as we know it came of age in the 1980s (Sparks & Loucks-Horsley, 1989). When President Regan's National Commission on Excellence in Education (1983) published *A Nation at Risk: The Imperative for Educational Reform*, Americans were suddenly faced with the reality that their schools were failing (in comparison with international education). This landmark study sparked an era of reform that has continued to build, tsunami-like, in the twenty-eight years since its publication (Cavanagh, 2012). With this publication as the impetus, a sudden surge of interest in school improvement and student learning emerged; workshops, articles, conferences, and research reports sprang up everywhere, seemingly overnight. Schools and teachers needed to be fixed, and fixed quickly, a mindset that has continued into the 21st century (National Commission on Excellence in Education, 1983). Teachers suddenly found there was less confidence in their knowledge and ability and more attention to reforms, accountability and paperwork (Tyack & Cuban, 1995), or as Tyack (1995) observed there was a push to circumvent teachers altogether and design "teacher-proof instruction" (p. 204). Despite attention being drawn to teachers as researchers (Cochran-Smith & Lytle, 1999) and to the importance of reflective practice (Schön, 1991), professional development still "fails fairly consistently" and teachers have "grown weary of efforts to 'develop' them" (Lieberman & Wood, 2001, pp. 174-175) in the three decades since the publication of *A Nation at Risk* (National Commission on Excellence in Education, 1983).

The original moniker for professional development was *staff development*, simply defined as "those processes that improve the job related knowledge, skills or attitudes of school employees" (Sparks & Loucks-Horsley, 1989). Glatthorn (1995) differentiates

between staff development and professional development. Professional development is the “professional growth a teacher achieves as a result of gaining increased experience and examining his or her teaching systematically” while staff development is “the provision of organized in-service programmes [sic] designed to foster the growth of a group of teachers; it is only one of the systematic interventions that can be used for teacher development” (Glatthorn, 1995, p. 41). Guskey (2000) defined professional development as “activities designed to enhance the professional knowledge, skills, and attitudes of educators so that they might, in turn, improve the learning of students” (p. 16). This type of development might take the form of a workshop, conferences, in-service meetings, or special sessions held afterschool or during the summer (Darling-Hammond & Sykes, 1999; Loucks-Horsley, Hewson, Love, & Stiles, 1998).

On January 8, 2002, President George W. Bush signed the federal *No Child Left Behind Act of 2001* (NCLB), a piece of legislation designed to make sure that all American children would be proficient in math and reading by 2014. Part of this act, Title IX, Part A, Section 9101, asserted that teachers needed high quality professional development and specified five criteria that high quality professional development needed to meet:

- Sustained, intensive, and content- focused—to have a positive and lasting impact on classroom instruction and teacher performance
- Aligned with and directly related to state academic content standards, student achievement standards, and assessments
- Improved and increased teachers’ knowledge of the subjects they teach

- Advanced teachers' understanding of effective instructional strategies founded on scientifically based research
- Regularly evaluated for effects on teacher effectiveness and student achievement (Yoon, Duncan, Lee, Scarloss, & Shapley, 2007).

While these criteria for high-quality professional development were specific, they did not incorporate several important qualities that researchers now know are imperative if professional development is to be effective: collaboration and duration (Desimone, 2009; Garet et al., 2001; Darling-Hammond, Wei, Andree, Richardson, & Orphanos, 2009).

President Barak Obama signed the American Recovery and Reinvestment Act of 2009 on February 17, 2009, providing funding, through competitive grants to states, designed to bolster teacher education and strengthen teacher quality (U.S. Department of Education, 2009). These grants were provided through the Race to the Top Fund (U.S. Department of Education, 2010), and participating states were required to issue proposals showing how they planned to improve teacher education and quality (Crowe, 2011).

With the surge of quantitative research in the past decade as to what constitutes effective, high-quality professional development, in 2011 the National Staff Development Council (NSDC), an internationally recognized organization for professional development, changed its name to *Learning Forward* in order to reflect its paradigm shift from professional (staff) development to professional learning. In 2001, they published standards for professional development that centered on improving student learning, standards that mirrored those set forth in the No Child Left Behind Act. However, in 2011, they updated those standards to reflect the new emphasis on professional learning, learning “that increases educator effectiveness and student learning” (NSDC, 2011, n.p.).

While the heart of the standards remains the same, the change in language is telling; the 2001 standard for design states: “Staff development that improves the learning of all students *uses learning strategies appropriate to the intended goal*” (NSDC, 2001, n.p.) while the 2011 standard for design states: “Professional learning that increases educator effectiveness and results for all *students integrates theories, research, and models of human learning to achieve its intended outcomes*”(emphasis added) (NSDC, 2011, n.p.). The emphasis on using research-based professional development has moved to the forefront of educational reform.

In comparison with the new definition provided by the NSDC (2011), which calls for a continuous, collaborative cycle of evidenced-based learning and improvement, professional development prior to 2011 has fallen far short of the mark. What teachers take away from professional development and what they need to be successful are not always in alignment. Researchers emphasize that many of the traditional forms of professional development that schools use need to be re-evaluated for effectiveness and relativity (Danielson, 2008; Danielson & McGreal, 2000; Guskey, 2000). Teachers have often regarded professional development as something required to maintain certification or keep their positions, “something they must endure and get out of the way” (Guskey, 2000, p. 15). Other complaints about traditional professional development have included that it is disjointed and removed from the classroom (Hawley & Valli, 1999), and designed for *one-size-fits-all* dissemination (Rivero, 2006). Principals have even admitted, “For years, staff development was something we gave or did to teachers instead of actively engaging them” (Gregory & Kuzmich, 2007, p. xiii). Thompson and Goe (2009) postulated: “if *effective* professional development means it leads to measurable

improvements in teaching practices . . . most professional development in the United States is not effective by this definition” (p. 2).

Garet et al. (2001) conducted the first large scale empirical study of the effects that different characteristics of professional development had on teacher learning. They concluded that in order for professional development to have positive effects on teachers’ knowledge and skills, it had to focus on content knowledge, to give opportunities for active learning, and to be cohesive with other learning activities. In terms of structural features, the effectiveness of professional development depended on the form of the activity, the collective participation of teachers from the same school, grade or subject, and the duration. Hunefeld (2009) concurred: “Teachers don’t improve by listening to someone tell them how to do something newer or better in their classrooms. They learn by working together to address problems they themselves identify in their schools and classrooms” (p. 24).

The Council of Chief State School Offices (CCSSO) published a review of evaluation studies that looked at the professional development of math and science teachers from 2004-2007. They identified specific characteristics of effective professional development that had measurable impact on teacher instruction and/or student outcomes (as cited in Wei et al., 2010). In short, these characteristics were:

- Strong focus on content and content-pedagogy
- Duration
- Strongly tied to teacher curriculum and school organization
- Teacher collaboration (professional learning via coaching, mentoring, lesson study)

- School- based, with schools as strong partners

Research a decade earlier (Darling-Hammond & McLaughlin, 1995) had laid out very similar characteristics of effective professional development:

- Engage teachers in concrete tasks of teaching, assessment, observation, and reflection that illuminate the processes of learning and development
- Grounded in inquiry, reflection, and experimentation that is participant-driven
- Collaborative, involving a sharing of knowledge among educators and a focus on teachers' communities of practice rather than on individual teachers
- Connected to and derived from teachers' work with their students
- Sustained, ongoing, intensive, and supported by modeling, coaching, and the collective solving of specific problems of practice
- Connected to other aspects of school change

The growing interest in research on effective professional development has been beneficial for teachers and their students. More research-based professional development models provide school districts, which are by necessity data-driven, with powerful tools to equip their teachers for success, not just success in terms of state and federal accountability measures, but more importantly, success with teaching their students to become learners, thinkers, and explorers. After all, most teachers do not enter the profession for “their cushy teachers’ lounges, their fat-cat salaries, and their absolute authority in deciding who gets a hall pass” (Maher, 2010, n.p.). They become teachers because they love learning and want to share that love of learning with students, and their professional development is “as much rooted in their hearts, in emotional life

experiences, in something they feel is important to live for . . . as it is directed purely by . . . cognitive or metacognitive factors” (Russell & Korthagen , 1995, p. 189).

Teacher professional development falls into two main categories: traditional and embedded. While the term “job embedded” has been used extensively over the past decade in education reform literature, “rarely is it explicitly defined” (Croft, Coggshall, Dolan, Powers, & Killion, 2010, p. 1). Drawing on the work of Darling-Hammond and McLaughlin (1995) and Hirsh (2009), Croft et al., (2010) defined job-embedded professional development as “teacher learning that is grounded in day to day teaching practice and is designed to enhance teachers’ content-specific instructional practices with the intent of improving student learning” (p. 2). Lee (2004/2005) observed that embedded models of professional development have been tried and tested with success. Little (2002) postulated that “research of the past two decades confirms the power of a professional community to heighten teachers’ efficacy and strengthen the overall capacity of the school to engage in change” (p. 46). Embedded professional development encompasses many types of learning opportunities for educators. Researchers have identified several types of job-embedded professional development including professional learning communities, communities of practice, peer coaching, data teams, lesson study, and critical friends (Croft et al., 2010). Chokshi and Fernandez (2005) emphasized the importance of teachers “transform[ing] their personal knowledge into a collectively built, widely shared and cohesive professional knowledge base” (p. 675), which leads to a shared understanding of good practice (Hawley & Valli, 1999).

Yet job-embedded professional development models have not been widely implemented in American school systems. Little (2001) observed that the “professional

development potential that resides in collaboration and community remain relatively underdeveloped” (p. 38). Despite Hargreaves’ (2007) optimistic prediction that professional learning communities might soon be a part of most schools, many districts still depend on “canned” professional development programs each year, “one-time workshops with no follow-up” (Little, 2001, p. 40). Webster-Wright (2009) suggests there are numerous reasons traditional professional development has changed so little, despite a growing body of research:

Many possible reasons exist. They range from the problematic nature of a bureaucratic working context for many professionals through professional issues such as time pressure and stress at work to problems with introducing change in such change-weary times. (p. 705)

Professional Learning Communities

Increased emphasis has been placed on collaborative learning as part of effective professional development. Professional development should encourage conversations between colleagues about what goes on inside classrooms and provide the opportunity to take their professional knowledge and share it, creating a foundation from which teachers can share good practice (Chokshi & Fernandez, 2005). Teacher collaboration has been linked with more positive interaction with colleagues and increased job satisfaction (Flowers, Mertens, & Mulhall, 1999), as well as higher levels of student achievement (Mertens & Flowers, 2003). In addition, collaborative learning builds trust between colleagues (Schmoker, 2006). Special emphasis has also been placed on the importance of authentic learning experiences using genuine problems within teacher professional practice (Darling-Hammond, 1997; Wenger, 1998). This knowledge leads to

opportunities for teachers to engage in authentic learning experiences. Authentic learning opportunities share five core features:

- they are ongoing (measured in years)
- they are collaborative
- they have explicit goals
- they pay specific attention to students' thinking, curriculum and pedagogy
- they provide access to alternative methods and ideas, and give opportunities to observe these in action and reflect on their effectiveness (Cohen & Hill, 1998; Hiebert, 1999; Little, 1982; Stigler & Hiebert, 1999).

A common theme that runs through the research of effective professional development is the importance of collaborative learning teams or professional learning communities (Wei et al., 2010). A professional learning community, or *community of continuous inquiry and improvement* (Austuto, Clark, Read, McGree, & Fernandez, 1993), is one in which the teachers and administrators of a school continuously work together to learn, share that learning, and act upon that learning (Hord, 1997). DuFour and Eaker (1998) are credited with coining the term *professional learning community*; they defined it as “educators [creating] an environment that fosters mutual cooperation, emotional support, and personal growth as they work together to achieve what they cannot accomplish alone” (p. xii).

Wilmore (2007) defined a learning community as “a group working collaboratively and cooperatively to develop goals while using open lines of communication” (p. 11). As defined by Stoll et al. (2006), a professional learning community is “a group of people sharing and critically interrogating their practice in an

ongoing, reflective, collaborative, inclusive, learning oriented, growth promoting way, operating as a collective enterprise” (p. 223). Thus a professional learning community is *embedded* professional development as it becomes part of the daily experience of a teacher rather than something separate and removed from the classroom; its aim is “to increase teacher collaboration, to build teachers’ knowledge about students and about teaching and learning, to encourage teachers to share resources, and to create shared norms and views about teaching and learning practices” (Corcoran & Silander, 2009, p. 163).

Effective professional learning communities (PLCs) share five core characteristics:

- Shared values & vision
- Collective responsibility
- Reflective professional inquiry
- Collaboration
- Promotion of group & individual learning (Hord, 2004; Stoll et al., 2006).

In 2009 researchers conducted a longitudinal study in a large California school district to determine the effects that collaborative work of grade level teams, via professional learning communities, had on student achievement. Nine schools implemented the professional learning communities while six school districts acted as a control group. At the end of four years, the students from the nine schools had significantly outperformed the six control group schools on standardized tests. The authors emphasized that teachers and administrators had followed the professional learning community protocols very closely during the study (Saunders, Goldenberg, & Gallimore, 2009). Key components of successful professional learning communities are

structure and support. Rasberry and Mahajan (2008) noted that schools who have not experienced success with creating professional learning communities either did not implement or support them effectively.

Vesico, Ross and Adams (2008) conducted a review of the research on the impact professional learning communities have on teaching and student learning. They found that the collaborative inquiry found in professional learning communities led to positive changes for those schools. A study conducted by Gilles, Wilson, and Elias (2010) examined the connection between professional development conducted through action research and the strength of a professional learning community. After interviewing twenty-four elementary teachers, the researchers concluded that as a result of action research, the teachers engaged in more collaboration, critical reflection, and professional dialogue.

Professional learning communities require a commitment from an entire school. Administration and teachers both have to share in a sense of collective responsibility for all students and focus their energy on learning, sharing that learning and moving forward. It requires teachers to “rethink their pedagogy, their conceptions of subject matter, and their role in curriculum development” (Feiman-Nemser, 2012, p. 137). Additionally, it can be difficult for teachers to engage in questioning one another’s beliefs and assumptions after being used to teaching in isolation (Little, 1990).

Lesson Study

One specific type of professional learning community is called lesson study. Lesson study or *jugyou kenkyuu* is a Japanese form of teacher professional development and is credited for bringing about Japan’s evolution of effective mathematics and science

teaching (Lewis, 2002a, 2002b; Lewis & Tsuchida, 1997, 1998; National Research Council, 2002; Takahashi & Bordia, 2000; Yoshida, 1999). Stigler and Hiebert (1999) brought lesson study to the attention of American educators in their book *The Teaching Gap: Best Ideas from the World's Teachers for Improving Education in the Classroom*. Many researchers believe that lesson study holds promise for transforming teacher professional learning (Lewis & Tsuchida, 1997; Stigler & Hiebert, 1999; Yoshida, 1999) but others argue that lesson study may not be as effective because teachers are used to working in isolation and are not comfortable collaborating due to the tension high-stakes testing has created in our educational climate (Alston, Pedrick, Morris, & Basu, 2011; Olsen, White, & Sparrow, 2011).

In Japan, lesson study is most commonly used with elementary grades and across all subject areas. Introduced during teacher preparation courses, lesson study continues to be practiced once Japanese teachers enter the classroom, so they benefit from a continuous form of professional development throughout their careers. Stevenson and Stigler (1992) described it thus:

One can notice a very systematic effort to pass on the accumulated wisdom of teaching practice to each new generation of teachers and to keep perfecting that practice by providing teachers the opportunities to continually learn from one another. (as cited in Yoshida, 1999, p. 46)

The emphasis in lesson study is on creating research (or study) lessons, not perfect lessons, and on collaboration and reflection. Teachers engage in systematic planning and collaboration in order to address an overarching goal (e.g. helping students read closely and critically) in a specific content area (e.g. English, science). In areas

where teachers do not have the content knowledge they need, they rely on “knowledgeable others,” such as experts in a content area, university professors, or instructors at schools that work with universities (Dubin, 2010). Lesson study gives teachers opportunities to plan a lesson, present it to their lesson study group, receive feedback, teach the lesson to students, show the group video footage of the lesson being taught in the classroom, and then receive more feedback on how students responded and any areas that seemed to cause confusion or difficulty. In this way, lessons are improved through collaboration and reflection. Teachers constantly refine their craft as they teach and re-teach lessons (Yoshida, 1999).

Lesson study consists of a cycle of planning, teaching, getting feedback from peers, revising, and re-teaching, focusing on student understanding and learning (Lewis, Perry, & Hurd, 2004). Subsequently it is holistic in nature. Lesson study addresses the whole teacher and the whole student. Japanese lesson study looks at the long-term implications for student learning, not just the immediate gains in a lesson or a test score, and recognizes that “student motivation, classmate support and other qualities of heart and mind greatly shape instruction” (Lewis et al., 2004, p. 21).

In Japan, an entire school (i.e. administrators and teachers) decides on an area of student weakness that needs attention and a subject area on which to focus. Their goal is not an immediate fix but rather a long term learning solution. Teachers then meet in grade level teams to plan a research lesson to meet this goal. The particular lesson becomes part of a larger unit of study, and emphasis is placed on key concepts and ideas, anticipated student responses and questions. The planning process and lesson revisions can take months, and when the lesson is taught to students, it is done so in front of the entire

faculty and often outside visitors. Those observing pay close attention to indicators of student learning, interaction with the lesson, signs of confusion, and evidence of the larger school goal. Afterwards, the entire group meets to discuss the lesson; once again, the focus is on student learning, not on the teacher. The lesson is revised and possibly re-taught; if so, then it is again observed and discussed. This cycle creates documented lessons that align with the school's curriculum and goals (Sisk-Hilton, 2009).

One way that Japanese lesson study varies dramatically from American "typical" professional development is in its focus on long term learning goals and a holistic approach to education. This focus is one reason it offers so much promise for real change in American classrooms; ironically, this is also why it risks becoming just another fad in a long line of disposable professional development series. The collaborative process of lesson study focuses on knowledge, pedagogy, and student learning, not on teacher delivery style. One impediment researchers found to implementing lesson study in American schools was that teachers did not like being observed and were sometimes defensive when questioned about their ideas (Hart & Carriere, 2011). Another impediment, observes Darling-Hammond (1997), is teachers' general distrust of educational policies and professional development that has failed to address the complexity of the teaching profession, instead leaving teachers to gather professional knowledge for themselves.

A 2003 collaborative study between Japan and the United States paired 16 teachers and administrators from an urban public school in New Jersey and 12 Japanese teachers from the Greenwich Japanese School in Connecticut. The Japanese teachers agreed to serve as lesson study coaches and teach the American teachers how to plan

study lessons and incorporate them effectively (Fernandez, Cannon, & Chokshi, 2003). Researchers observed three habits of mind the Japanese teachers possessed that were not articulated by the American teachers. These habits or ‘critical lenses’ were identified as the researcher lens, the curriculum developer lens, and the student lens. The researcher lens requires the teachers to ask questions about their practice and design classroom experiments to explore these questions. At the onset of the study, Japanese teachers emphasized four critical aspects of good research: developing a meaningful and testable hypothesis, using appropriate means for exploring the hypothesis, relying on evidence to judge success, and generalizing the findings to other contexts. In order to develop a meaningful hypothesis, teachers must set an overarching goal for their study lesson, and this goal focuses on weaknesses they have observed in their students, as well as a specific skill set they want to teach. This goal remains the primary focus during teacher collaboration. American teachers consistently failed to discuss the goal while planning their instruction during this study (Fernandez et al., 2003).

Another critical aspect of the researcher lens is the importance of taking detailed notes, paying attention to how the students are learning, rather than focusing on the teacher’s style. Reflective discussion of the lesson afterwards should include empirical evidence of the lesson’s success; however, the researchers observed that American teachers relied heavily on their feelings of success and were not able to provide concrete evidence to support their feelings.

The curriculum developer lens asks the teacher to view him/herself as a researcher and critically examine the content and sequence of student learning apart from his/her identity. In essence, teachers should reflect on what they want students to learn, how

students will learn, and how they will help their students reach those learning goals. The student lens asks teachers to look at lesson through the eyes of the student, to anticipate student behavior, possible barriers to learning, and types of questions students might have as they designed lesson. At the end of the study, the researchers concluded that lesson study held great promise but there were substantial barriers to implementing lesson study in the U.S. with the same success Japan experienced.

The most common barriers researchers have identified in implementing lesson study in the United States are

- Lack of shared long-term goals by teachers at the same school or in the same department
- Lack of curricular coherence
- Lack of strong content knowledge
- Teacher isolation
- Lack of shared planning time (Chokshi & Fernandez, 2004; Lewis, 2002c; Stigler & Hiebert, 1999).

Other fundamental barriers were cultural in nature. Weeks (2001) theorized that Japanese teachers are *process oriented* while American teachers are *product oriented*. Self reflection is a critical component of professional practice for Japanese teachers; an aspect noticeably absent in the role external evaluations play in American culture (Lewis, 2002c; Stigler & Hiebert, 1999). Generally, American teachers engage in professional development to learn something new; conversely, Japanese teachers view themselves as professionals who have a responsibility to the profession (Stigler & Hiebert, 1999). In a survey regarding what teachers perceived as the most important goal of education, 61%

of U.S. teachers identified skills, while 73% of Japanese teachers responded learning new ways of thinking (Stigler & Hiebert, 1999, p. 90). Fernandez and Cannon (2005) noted that a significant barrier to implementing lesson study successfully is teachers' own views on teaching; the focus is on teacher behaviors rather than student behaviors.

Other obstacles stand in the way of lesson study becoming a widely accepted and utilized form of embedded professional development. The United States has a long record of limited educational change; labels may change but the reforms themselves remain uniformly singular (Cohen, 1990; Cohen & Ball, 1990; Tyack & Cuban, 1995). Schools have continued to rely on traditional professional development models, despite their lack of success in generating any real change for teachers (Lieberman & Wood, 2002; Little, 1993; Sykes, 1996). Lesson study is also in danger of simply being the professional development *du jour*; without a serious investment of time and resources to implement and maintain effective lesson study groups, lesson study will not work (Fullan, 1993).

Schools should understand the framework that underpins and supports lesson study. Without this framework in place, lesson study will become one more failed attempt at revolutionizing teacher learning. Research from Japan and the United States indicate that there are seven key components of a successful lesson study group

- Increased knowledge of subject matter
- Increased knowledge of instruction
- Increased ability to observe students
- Stronger collegial networks
- Stronger connection of daily practice to long-term goals

- Stronger motivation and sense of efficacy and improved quality of available lesson plans (Lewis et al., 2004).

Lesson study is not a single uniform practice any more than teaching is. Whatever form it takes, the goals are the same: increase student knowledge and thinking, develop collaborative skills, and bring about change in how teachers teach. Lesson study encourages teachers to see themselves as professionals and teaching as more than a skill set (Stepanek, 2001). Inquiry models of professional development, like lesson study, assume the participating teachers are experts with experience who seek data that will inform their instruction.

Lewis (2002b) cautioned that lesson study in the United States lacks a strong research base to support it as an effective professional development method. It is, however, supported by a strong theoretical foundation. Lewis et al., (2006) estimated that much of the research on lesson study is descriptive rather than rigorous. Lewis (2002b) encouraged researchers to explore lesson study's potential for professional development.

Self Efficacy

Professional development reform will not benefit teachers if they are not an integral part of those reforms (Darling-Hammond, 1997; Wilms, 2003). Effective professional development is teacher-centered and focused on the professional growth of educators. Reforms that address all the components of effective professional development yet do not take into consideration teachers' beliefs about themselves and their ability to influence educational change are reforms that will still fall short. Fullan and Hargreaves (1996) noted that much of what constitutes teacher professional development fails to account for the different learning needs of teachers and the complexities of the teaching

profession; in addition, it fails to address their beliefs about teaching. As Nespor (1987) reflected: “To understand teaching from the teachers’ perspective, we have to understand the beliefs with which they define their work” (p. 323).

Self efficacy is a construct developed by psychologist Albert Bandura (1977, 1997), which is based on his social cognitive theory. Social cognitive theory purports that human beings are more than simply products of their environments or of biology (Henson, 2001). Rather, human beings are complex, and their responses to stimuli are complex as well. Self efficacy might also be described as self knowledge, an individual’s awareness and belief about his or her abilities to be successful in a given situation; the ability to take action, to exercise control over a situation and his or her response to it, and to anticipate what outcomes will likely be achieved. But as Tschannen-Moran and Hoy (1998) observed: “self efficacy has to do with self-perceptions of competence rather than actual level of competence” (p. 7). As with the classic ‘little engine that could,’ personal self efficacy is all about belief and determination; “people need firm confidence in their efficacy to mount and sustain the effort required to succeed” (Bandura, 1997, p. 11).

In his 1977 article *Self efficacy: Toward a unifying theory of behavioral change*, Bandura defined self efficacy as “beliefs in one’s capabilities to organize and execute the courses of action required to produce given attainments” (p. 3). An individual’s behavior is determined by his or her belief about those abilities; perception determines choices. A decade later, Bandura (1986) expanded his definition of self efficacy, clarifying that personal belief does more to motivate accomplishments than ability does. Those with high self efficacy will work harder and longer in order to achieve a goal; those with low self efficacy will likely be deterred when obstacles or difficulties are presented.

Bandura's theory is reminiscent of the urban myth which contends that physicists have proved it is aerodynamically impossible for a bumblebee to fly, only no one told the bumblebee. While belief in ability is not sufficient in itself for success, it is perhaps the most powerful motivator for change; "[people must] believe they can produce desired effects by their actions (or) they have little incentive to act" (Bandura, 1986, p. 52).

Self efficacy is belief in ability to accomplish a goal; that belief influences motivation, subsequent behavior and ultimately, success or failure. There are two components of self efficacy: personal efficacy and outcome expectancy. Personal efficacy refers to one's feelings of competence; one's ability to plan and execute a specific course of action that will lead to a specific goal. Outcome expectancy is the belief that this action or behavior will lead to a desired result; the likely consequences of the action performed. Both are strongly tied to motivation – the amount of effort someone will expend to accomplish a task and the degree of persistence he or she will demonstrate when confronted with obstacles (Bandura, 1977, 1986).

Gist and Mitchell (1992) differentiated between the self efficacy beliefs of individuals: individuals with high self efficacy and low self efficacy will both attribute success to their effort and ability. However, in the face of failure, a person with high self efficacy will attribute that failure to lack of effort. A person with low self efficacy will blame lack of ability for the failure. An individual with high self efficacy will be more likely to expend effort in order to overcome that failure, whereas a person with low self efficacy will be more likely to give up, believing it is outside his or her ability to perform the task.

Bandura (1986, 1997) theorized there are four sources from which efficacy can come: mastery performance, vicarious experiences, verbal persuasion, and physiological arousal. Mastery performance is the most powerful source of personal efficacy, given that a person's success in a situation strengthens the belief that success is possible, thereby leading to more success. However, all success does not lead to higher self efficacy. Bandura further noted that a self-reflective component is required for efficacy to increase because reflection leads the individual to make value judgments about his or her capabilities. Vicarious experiences occur when the individual observes someone else for whom they have respect or admiration achieves success; the individual gains a vicarious increase in self efficacy. Verbal persuasion is connected with praise or encouragement; an individual is bolstered by the encouragement of a respected peer or authority figure that has experienced success with the task the individual is expected to undertake. Verbal persuasion as a means of increasing self efficacy is connected to a task, rather than praise for an individual's general abilities. Tschannen-Moran and Hoy (1998) observed that "self-efficacy is distinct from other conceptions of self, such as self-concept, self-worth, and self-esteem, in that it is *specific to a particular task*" (p. 7) [emphasis in original]. Physiological arousal is connected with a person's emotional response to a situation and is evidenced through physical manifestations such as sweating or experiencing a sick stomach. The higher the levels of emotional stress become, the more likely the individual will experience lower self efficacy (Bandura, 1977, 1997).

Teacher Efficacy

Teacher efficacy is a form of self efficacy, an extension of Bandura's (1977) social cognitive theory. Bandura (1994) identified teacher efficacy as teachers' belief that

they can develop and utilize interventions that will surmount barriers to student learning, resulting in their ability to effectively teach all students. Hoy (2000) specified that teachers' efficacy is directly tied to confidence and belief. Dembo and Gibson (1985) cited a similar definition, referring to teacher efficacy as the amount of influence a teacher believes he or she directly has over student learning. Drawing on the work of Armor et al., (1976) and Bandura (1977), Tschannen-Moran and Woolfolk-Hoy (2001a) elaborated on prior definitions and identify it as a teacher's "judgment of his or her capabilities to bring about desired outcomes of student engagement and learning, even among those students who may be difficult or unmotivated" (p. 783). Dellinger, Bobbett, Olivier, & Ellett (2008) described it as "teachers' individual beliefs about their own abilities to successfully perform specific teaching and learning related tasks within the context of their own classrooms" (p. 751). While all the cited definitions of teacher efficacy are somewhat different, essentially they are all saying the same thing: teacher efficacy is built by the belief that the teacher can and will make a positive impact on student learning.

In 1976, RAND corporation researchers conducted a survey of successful reading programs, gathering data from 239 intervention programs in 30 school districts over a 4 year period (Armor et al., 1976). Their survey contained two particular questions that would prove foundational in the research on teacher efficacy:

1. When it comes right down to it, a teacher really can't do much because most of a student's motivation and performance depends on his or her home environment

2. If I try really hard, I can get through to even the most difficult or unmotivated students. (Tschannen-Moran & Woolfolk-Hoy, 2001a, pp. 784-785)

The first question focused on things a teacher would regard as outside his or her control (i.e. home life, socio-economic factors, psychological and medical factors); these beliefs were later labeled general teaching efficacy (GTE). The second question focused on the teacher's belief that he or she could surmount outside obstacles and successfully teach any child. This belief is known as personal teaching efficacy (PTE) (Tschannen-Moran & Woolfolk-Hoy, 2001a). Results from the RAND study concluded that teacher efficacy was the most important predictor of successful change implementation (Berman, McLaughlin, Bass, Pauly, & Zellman, 1977). In their review of the literature, Woolfolk and Hoy (1990) noted that "researchers have found few consistent relationships between characteristics of teachers and the behavior or learning of students [however] teachers' sense of efficacy . . . is an exception to this general rule" (p. 81). This is one reason that studying teacher efficacy is necessary when examining and planning educational change.

The construct of teacher self efficacy serves as an umbrella under which two separate but equally important constructs function: personal teaching efficacy (PTE) and general teaching efficacy (GTE) (Ashton, 1984). The first construct, personal teaching efficacy, refers a teacher's own feelings of competence as a teacher. The second construct, general teaching efficacy, refers to a teacher's belief that teachers have the ability to positively affect student outcomes. These two constructs exist independently of each other; a teacher may have high general teaching efficacy (i.e. he/she believes teachers, in general, can make a positive difference in student lives) while still having low personal teaching efficacy (i.e. his/her personal ability to reach students). According

to researchers, quality teaching improves student learning outcomes (Lewis, 2009), and teachers are the single most important factor in raising student achievement (Hanushek & Rivkin, 2010; Rockoff, 2004; Wenglinsky, 2000). Teachers who believe their teaching ability has a direct impact on student learning are more effective teachers who demonstrate higher levels of teacher efficacy (Bandura, 1981; Gibson & Dembo, 1984). High levels of teaching efficacy have been linked to increased student achievement and higher levels of expectation for students (Ashton & Webb, 1986; Gibson & Dembo, 1984); therefore, improving teacher self efficacy, both personal and general, has a direct impact on improving student learning (Tracz & Gibson, 1986).

Research indicates that professional development has a direct impact on teachers' sense of efficacy; therefore, understanding how teacher efficacy is strengthened is an important part of developing effective professional development for teachers (McLaughlin & Berman, 1977; Scribner, 1998). Smylie (1988) observed: "research suggests that teachers are more likely adopt and implement new classroom strategies if they have confidence in their own ability to control their classrooms and affect student learning" (p. 6). Increased teacher efficacy translates into greater commitment toward teaching (Ashton & Webb, 1986). Additionally, teachers who possess high self efficacy are generally more confident, more responsible, and more effective in their classrooms (Bandura, 1981; Gibson & Dembo, 1984). Tobin, Tippins, and Gallard (1984) emphasized the importance of teacher self efficacy beliefs because of the influence these beliefs have over how an educator plans and implements student learning objectives. In order to be effective, professional development should address not only content knowledge but also teacher beliefs (Loucks-Horsley, Love, Stiles, Mundry, & Hewson,

2003). Teacher efficacy, according to Smylie (1988), serves as a “professional filter through which new ideas and innovations must pass before teachers internalize them and change their behaviors” (p. 148). Dembo and Gibson (1985) emphasized the importance of “identifying . . . and developing ways to enhance teachers’ sense of efficacy [as it] is critical . . . [as] . . . researchers must consider many variables as well as the complex manner in which they interact” (p. 177).

In a 2003 qualitative study, Yerrick and Hoving observed that teachers with low self efficacy generally did not believe that all students were capable of learning. Lack of student achievement was attributed to laziness, bad attitudes, or a lack of discipline; teachers with low self efficacy spent less time teaching these students. They were less likely to recognize these students during classroom activities, and less likely to push them to excel. Henson (2001) reinforced the importance of high teacher self efficacy: “a teacher’s belief in his or her ability to positively impact student learning is critical to actual success or failure in a teacher’s behavior” (p. 17). A teacher’s perception of student ability, as well as perceived ability to successfully teach those students, determines the choices that teacher will make. Tschannen-Moran and Hoy (1998) reviewed the research on teacher efficacy and identified 5 key traits shared by teachers with a stronger sense of efficacy. They

- tend to exhibit greater levels of planning and organization,
- are more open to new ideas and are more willing to experiment with new methods to better meet the needs of their students,
- are more persistent and resilient when things do not go smoothly,
- are less critical of students when they make errors, and

- are less inclined to refer difficult students to special education (Jerald, 2007, p. 3).

Professional development programs that span months (rather than a day or days) and include opportunities for collaboration lead to increased efficacy (Henson, 2001; Ross, 1994). Experienced teachers who have solidified their efficacy beliefs over time (for good or ill) can be especially difficult to impact (Cantrell & Hughes, 2008), and Henson (2001) concluded that “positively impacting teachers’ efficacy beliefs is unlikely outside of longer-term professional development that compels teachers to think critically about their classrooms and behave actively in instructional improvement” (n.p.). Positively affecting teacher efficacy “requires professional development that engages teachers in collaborative critical thinking about their practices and in actively changing behaviors” (Cantrell & Hughes, 2008, p. 102). Lesson study, an embedded form of professional development that spans the entire school year, provides the collaborative and timely aspects that research indicates are necessary for teacher efficacy to be impacted.

Bandura (1986) noted that participation in a pro professional learning community (such as lesson study) benefits teachers because vicarious experiences allow them to learn from and enjoy success with their colleagues. Working collaboratively improves teacher efficacy (Henson, 2001) and the level of collaboration in a school has also been linked to higher collective efficacy (Chester & Beaudin, 1996). Collective efficacy of a school is defined as “a construct measuring teachers’ beliefs about the collective (not individual) capability of a faculty to influence student achievement; it refers to the perceptions of teachers that the efforts of the faculty of a school will have a positive effect on student achievement” (Goddard, Hoy, & Woolfolk-Hoy, 2000, p. 486). Several research studies

have identified collective efficacy as significant predictor of student achievement in math, reading and science, regardless of other variables (Goddard et al., 2000; Goddard, LoGerfo, & Hoy, 2004; Hoy, Sweetland, & Smith, 2002). Hord, Roussin, and Sommers (2010) contended that “schools in which the faculty had a strong sense of collective efficacy flourished, whereas those in which faculty had serious doubts about their collective efficacy withered – that is, declined or showed little academic progress” (p 37).

Reflection

Bandura’s (1997) construct of teacher efficacy contains an important component: reflection. Through reflection, teachers are able to evaluate their practice and “construct new knowledge as a result of these reflections” (Merriam, Caffarella, & Baumgartner, 2007, p. 160). Without being self-reflective, teachers cannot change in their levels of self-efficacy. Reflection is essential if teachers are to grow professionally (Constantino & DeLorenzo, 2001; Danielson & McGreal, 2000; Glickman, 2002; Lambert, 2003) and it “transforms [their] experience into learning” (Webster-Wright, 2009, p. 275).

In his book *The Reflective Practitioner*, Schön (1983) is credited with coining the term “reflection-in-action,” the idea that knowing is *in* the action of the professional (emphasis added). Reflection-in-action is a process by which a teacher combines experience with reflection in order to solve a problem. This reflection on practice leads to changes in practice. Cervero (1988) noted that the “ability to reflect in action is the core of effective practice” (p. 157).

Wade, Fauske, and Thompson (2008) conducted a research study with secondary teachers and their development of critically reflective problem solving. They used online discussion group to understand the reflection process of participating teachers. Their framework was based on the work of Schön (1983, 1987), who said that reflective

practitioners think through a problem, reflect on their beliefs by examining a problem from several different perspectives, look for solutions, and then reflect on the possible outcomes of those solutions. In other words, teachers think about how their actions affect students' academically, emotionally, and intellectually, pondering the possible consequences of their actions. Based on their study, Wade et al., (2008) identified 5 reflective categories that inform the ways that teachers think about the relationship between their teaching and student learning. These 5 categories are:

- business as usual,
- remediating cultural deficiencies,
- teaching the culturally different,
- human relations,
- transformational learning

According to Schön (1987) for learning to occur, a disconnect cannot exist between theory and practice, which often occurs in traditional professional development.

Reflection plays a crucial role in the success of professional learning communities. Martin-Kniep (2007) noted, "Reflective practice is the sustenance of collaborative learning communities by providing teachers with opportunities to articulate and analyze their thinking and practices" (p. 6). Teachers watch, live or engage in an experience, interpret the experience based on current knowledge and determine how to respond to experience.

Mezirow (2000) identified critical reflection as a distinguishing characteristic of adult learning. Adults question their beliefs, their paradigms, all based on experience and reflection on those experiences. Reflective teachers identify problems, search for

solutions, use experience to compare and evaluate these solutions and then implement those solutions, reflecting on their success or failure (Dinkleman, 2003; Schön, 1983; Wade et al., 2008). According to Darkenwald and Merriam (1982), “Thoughtful practitioners know not only what they are to do, but why they are to do it. Experience combined with reflection leads to purposeful and informed action” (p. 37).

Adult Learning

Adult learning is a systematic, deliberate process by which adults learn new information, skills, and ways of thinking, or hone and refine the skills they already possess. Knowles (1975) contended there are four specific ways in which adults differ from children in their learning. Adults need to know why they are learning what they are learning. They bring with them varied background experiences, have a strong sense of self, and are also generally motivated by intrinsic factors rather than external reward. While external motivators like learning new job skills or understanding new technology may influence an adult’s decision to pursue education, internal motivators are the impetus for learning. Therefore adult learning is primarily self-directed rather than mandatory, a distinct difference from the way children are taught and learn.

Self-directed learning is an adult learning theory that examines adult learning through the lens of personal responsibility (Brockett & Hiemstra, 1991). Firmly rooted in constructivism, self-directed learning is experiential and observable. A self-directed learner chooses what he or she wants to learn, responds to the learning intellectually and emotionally, and is concerned with the physical and mental skills necessary for learning. The responsibility for learning rests on the learner, not on a facilitator or teacher. However, self-directed learning does not always connote learning in isolation. Self-

directed learning can take place in a formal educational setting or an informal one; the crux of self-directed learning is that it is deliberate, systematic, and has a goal. It does not occur at random and is not incidental or a by-product of some other experience. Self-directed learning has been equated to lifelong learning (Newsom, 1977), since adults continue to learn throughout their lifetime, whether or not that learning occurs in a formal education setting.

There are three constructs necessary for adults to learn. The learning must be problem-centered, experience-centered, and meaningful (Gibb, 1960). Knowles (1975) specified that self-directed learning is a process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes (p. 18)

Key components of self-directed learning are personal responsibility (Brockett & Hiemstra, 1991); initiative (Knowles, 1984); control (Carré, 2000); self-planning (Tough, 1971); and intentionality (Hake, 1999). Other essential characteristic of self-directed learning are reflection and action (Brookfield, 1986). When adults are engaged in self-directed learning, they change “perspectives, shift ... paradigms and replace one way of interpreting the world by another” (Brookfield, 1986, p. 19). These shifts are essential if learning transfer, i.e. the learner’s internalization of the learning and the changes that take place in thinking and practice as a result, is to occur (Caffarella, 2002).

Brockett and Hiemstra (1991) identified two symbiotic dimensions of self-directed learning in their Personal Responsibility Orientation (PRO) model of self-directed learning: the “instructional method processes (self-directed learning) and

personality characteristics of the individual learner (learner self-direction),” indicating that self-directed learning is as much a process as it is a personal orientation (p. 26). In their model, Brockett and Hiemstra (1991) framed the actual learning and the characteristics of the learner within the broader concept of personal responsibility. Grow (1991) and Garrison (1997) identified motivation and control as necessary components of the self-directed learning framework. Knowles (1975) used the term *initiative* in his definition of self-directed learning, indicating that a personal sense of responsibility for one’s own learning becomes the catalyst for self-directed learning. Building on Brockett and Hiemstra’s (1991) PRO model, Stockdale and Brockett (2011) proposed the Personal Responsibility Orientation to Self Direction in Learning Scale (PRO-SDLS), combining the constructs of self-efficacy (Bandura, 1997), motivation, control and initiative in order to measure both the act of self-direction in learning (the teaching-learning transaction) and the characteristics of a self-directed learner. Combined, these four constructs are intended to measure an individual’s self-directedness in learning.

Teachers are adult learners, so it is important that program planners recognize the qualities unique to adult learners if their programs are to be successful and beneficial to the participants. Collaboration and hands-on, practical learning activities are components of successful professional development programs. Adult learning situations should be purposeful, relevant and centered in real world experience (Gibb, 1960). Professional development providers, recognizing that teachers are adult learners who are intrinsically motivated to learn by virtue of the fact that they *are* adult learners, will design programs that are applicable to real life and therefore relevant to the work teachers do every day. Sarason (1972) provided this reminder:

Nobody would disagree . . . that schools are primarily for the education of children. [But the] assumption that teachers can create and maintain conditions . . . stimulating for children, without those same conditions existing for teachers, has no warrant. (pp. 123-124)

Conclusion

Education reform initiatives that focus on student achievement and ignore the role professional development plays for teachers who are responsible for equipping students for success are ineffective and often fail (Engstrom & Danielson, 2006; Guskey, 2002). Research studies have focused on professional development in the context of student achievement (Desimone et al., 2006; Garet et al., 2001). There is a need for research in the area of reflective professional development, such as lesson study, and its impact on teacher self-efficacy and professional identity. Program planners should understand the importance of reflection, collaboration and identity, and the necessity of incorporating adult learning theory in the professional development they design for teachers. Webster-Wright (2009) reinforced the importance of these separate but interrelated components of teacher profession development and contends that further research is needed that “views the learner, context and learning as inextricably interrelated” (p. 712), if professional development is going to provide the inside out change necessary for current educational reforms to be successful (Jennings, 2012).

CHAPTER III

METHODOLOGY

This two-phase sequential mixed methods study examined the relationship between professional development, whether in the form of traditional professional development, a professional learning community and/or lesson study, and teacher self-efficacy and self-directed learning in order to gain a greater understanding of the role professional development plays in teacher identity and efficacy as they relate to adult learning theory. In order to address the research questions and hypotheses posed in this project, both quantitative and qualitative approaches were used in a mixed method design.

Research Questions

The following qualitative questions guided this study:

1. What similarities and differences exist between the teachers who participate in the qualitative interviews who participated in traditional professional development and the teachers who participated in the interviews who also participate in lesson study, specifically their perceptions of their efficacy, professional identity and the value of the professional development in which they participate?
2. Among the lesson study group, how will teachers describe themselves as professionals and as adult learners?
3. Among the non-lesson study group, how will teachers describe themselves as professionals and as adult learners?

The following quantitative research questions were used to guide this study:

1. How will the efficacy of teachers who participate in their district's mandated professional development and a professional learning community and/or lesson study compare to the efficacy of teachers who participate only in the professional development provided by their school district as measured by the PRO-SDLS?
2. How will self-directed learning, as measured by motivation, initiative, and control, of teachers who participate in their district's mandated professional development and a professional learning community and/or lesson compare to the self-directed learning of teachers who participate only in the professional development provided by their school district as measured by the PRO-SDLS?

Research Hypotheses

The hypotheses developed for this study included the following:

1. Teachers participating in some form of a professional learning community will have higher self-efficacy scores than teachers who do not participate in a professional learning community.
2. Teachers who participate in a professional learning community will have higher self-directed learning scores than teachers who do not participate in a professional learning community.
3. Teachers who participate in lesson study will have higher self-efficacy and self-directed learning scores than teachers who participate in a different type of professional learning community.

According to Johnson and Onwuegbuzie (2004), mixed method design is “an expansive and creative form of research, not a limiting form of research. It is inclusive, pluralistic, and complementary, and it suggests that researchers take an eclectic approach to method selection and the thinking about and conduct of research” (p.17). Because the researcher sought to understand the individual experiences and attitudes of specific teachers within a larger group of teachers who do and do not participate in a professional learning community and/or lesson study, mixed methods was an appropriate research design. Creswell (2009) contended that the use of combined quantitative and qualitative approaches provides for a better understanding of the research problems than either statistical approach could provide on its own. Tashakkori and Teddlie (2003) referred to mixed methods research as the “3rd methodological movement” (p. ix).

When using a mixed methods approach, the researcher must decide how and when qualitative and quantitative methods will be utilized; there are three specific lenses that define how this decision is made (Creswell, 2009; Johnson & Onwuegbuzie, 2004). First, the researcher has to determine which method will take precedent over the other method in the study. Second, the researcher must decide if the research will be conducted sequentially or concurrently. Finally, the researcher must decide when the data will be integrated. There are various types of mixed methods research designs, including QUAN-Qual, QUAL-Quan, and QUAN-QUAL (Creswell, 2009). The uppercase lettering indicates which method is weighed more heavily, or if both methods carry equal weight in the research design (Gay, Mills, & Airasian, 2006). This research study utilized a QUAL-Quan approach to collecting and analyzing data. In the first phase of the research study, the researcher gathered qualitative data via one-on-one interviews. Themes that

emerged from these interviews informed the type of quantitative data that would be sought in the second phase of the study.

In this study, data collection took place sequentially. According to Hesse-Biber (2010), there are two types of sequential studies: explanatory and exploratory. In the sequential explanatory design, quantitative data is collected and analyzed in order to determine the direction the second phase of the research will follow. In the sequential exploratory design, the qualitative portion precedes the quantitative data collection (Hesse-Biber, 2010). Because the qualitative interviews were analyzed for themes and those themes informed the choice of the instruments for the quantitative data collection, this mixed methods research fits a sequential exploratory strategy. This approach

involves a first phase of qualitative data collection and analysis, followed by a second phase of quantitative data collection and analysis that builds on the results of the first qualitative phase. Weight is generally placed on the first phase and the data are mixed through being connected between the qualitative data analysis and the quantitative data collection. (Creswell, 2009, p. 211)

In the first phase, qualitative data was gathered through interviews with 22 teachers from a school district in a small rural area in south Mississippi. These interviews provided insight into teachers' perceptions of their identity, professionalism, and reflective practice; the interviews also provided insight into teachers' ideas about the benefits of collaboration and professional development. The second phase gathered quantitative data from 171 teachers representing two rural Mississippi school districts who completed an electronic survey, the Personal Responsibility Orientation to Self Direction in Learning Scale (PRO-SDLS), which was modified by the researcher, with

permission from the instrument's author (Stockdale & Brockett, 2011). The PRO-SDLS was designed to measure self efficacy, motivation, initiative, and control. Motivation, initiative and control variables measured self-directed learning, one of the defining characteristics of adult learning.

Participants

The population studied in this research project were K-12 teachers from two school districts in south Mississippi. The two districts combined had 11 schools: 2 high schools, 2 middle schools, 2 upper elementary schools, and 5 elementary schools. Approximately 636 teachers were employed by both districts; school district A employed 269 teachers while school district B employed 367 teachers. Both districts are rated as A districts by the state's accountability system; an A rating by the Mississippi Department of Education is based on a school or district's high level of performance on the state's accountability measures. Both served students populations numbering between 4000–5000. School district A had 54.75% free and reduced lunch participation; school district B had 37.61% free and reduced lunch participation.

Phase 1 of this research involved face-to-face interviews with 22 teachers from one high school in school district A. Ten teachers from the English department and 12 from the Career and Technical Education department were interviewed. School district A participated in a type of professional learning community called lesson study. The researcher is a teacher at school district A. Although convenience sampling was used for the qualitative portion of this research, school district A's participation in lesson study made this specific population of teachers an ideal group for the researcher's study. In addition, not all teachers within the high school engaged in lesson study groups. Only

those who taught in state-tested subject areas (math, science, history, and English) had their schedules arranged so that they are able to meet for 45 minutes per day as departments on a daily basis and participate in lesson study. These teachers also had a 45 minute planning period, just as all teachers in this high school did. Because lesson study is a collaborative endeavor, it is dependent upon a group of teachers who teach common subject matter; therefore, it was not a viable option for every teacher at this high school. The forensics/drama teacher was the only one at the school. Likewise the choral teacher was responsible for teaching general music as well as the more advanced show-choir group, but other than the district's four band leaders, all of whom taught at different school sites depending on time of day, she had no one with whom to collaborate. The Career and Technical Education (CTE) department had a dozen teachers, all teaching different vocational skills such as agriculture, culinary arts and information technology. These teachers, with the leadership of the assistant principal, formed a professional learning community within the CTE department for the 2012-2013 school year, the first of its kind for non-core subject area teachers in the district. Because all 12 teachers were responsible for very different curricula, traditional lesson study was not an appropriate form of professional learning community (PLC) for them. Their PLC met once a month, during what used to be a monthly department meeting, and focused on cross-curricular teaching skills, such as classroom management, organization, and implementing the new Common Core State Standards. However, when the interviews were conducted, this department had not yet begun participating in a professional learning community.

The quantitative portion of this research was collected via the Personal Responsibility Orientation to Self Direction in Learning Scale (PRO-SDLS), which was

modified by the researcher with the permission of the instrument's authors (Appendix D). The modifications included making question wording specific to teachers and adding ten non-Likert scale questions designed to gather demographic data. The cover letter (Appendix E) and the survey instrument were sent via an email link from the online survey platform Qualtrics to approximately 600 teachers in the two school districts, one being the district in which the researcher teaches. The school districts are of comparable size and academic rating as set forth by the state department of education.

Qualitative Data Collection

As a preliminary step in this project, Merriam's (2009) case study method was chosen for the qualitative component of the mixed method design. Yin (2008) defined a case study as: "an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when boundaries between phenomenon and context are not clearly evident" (p. 18). Or defined another way, a case study is "an intensive study of a single unit for the purpose of understanding a larger class of (similar) units" (Gerring, 2004, p. 342). Qualitative research is often "criticized for subjectivity" and the researchers for their "advocacy relations with their co-participants" (Herzog, 1998, p. 158), so the fact that the researcher is a faculty member at this high school, a member of the English department, a participant in lesson study, and was a member of the career and technical education (CTE) department for one year presented a weakness and a potential for bias in the study.

Because the lesson study group and the non-lesson study group both functioned within the same high school and participate in the same school-wide professional developments, they fit the definition of a bounded system as represented by a single unit

of study. The fact that the CTE department did not participate in lesson study made these two groups an interesting comparison. The teachers were interviewed during the spring of 2012. At the time, the two departments were identical in size; both were comprised of twelve faculty members, and both included a first-year teacher. The researcher interviewed ten members of the English department and twelve members of the CTE department; out of twenty-four possible faculty members, twenty-two (92%) agreed to participate in the interview process.

Prior to conducting the interviews, the researcher received approval from the Institutional Review Board (IRB) for the research project (Appendix F) and permission from the school district A's superintendent (Appendix G). The information from the qualitative interviews was analyzed to determine major themes and then used to inform the choice of survey instrument used in the quantitative portion of this study.

Twenty-five questions were used in the interview protocol with 22 teachers, representing the English department, which participates in lesson study, and the Career and Technical Education department, which does not. All 22 teachers work at the high school in school district A. These questions were designed to measure teachers' perceptions of their professional identity, professionalism and reflective practice, as well as to gather information about their views on the value of collaboration and professional development.

Basic demographic information was gathered at the beginning of each interview (Q1-6), including how many years the teachers had taught overall and how many of those had been at this high school; what subject area the teacher currently taught; if other subjects had been taught; and if the teacher was a National Board Certified teacher. This

question was asked because it connects with the literature on professional development and teachers as life-long learners. The remaining 15 questions were focused on the teacher as a professional (Q7b, Q10a, Q19, & Q20), self-directed learning (Q7c, Q8), his or her beliefs about the purpose of professional development and what kinds are most beneficial (Q9-Q10a-c); the importance of collaboration with peers and the frequency with which he or she collaborated with others (Q11-Q14); the importance of reflection and the kinds of experiences that caused him or her to reflect (Q15-Q16); feelings of isolation and what could be done to overcome them (Q17-Q18); whether or not he or she felt supported by the administration and in what ways; whether or not he or she felt supported by colleagues and in what ways; and what experience(s) had given him or her the greatest sense of professional or personal accomplishment as an educator (Q7a, Q21). There were no questions that directly addressed lesson study; the same protocol was used for both groups. The researcher used the questions that pertained to professional development, collaboration, and isolation to glean information about the participants' feelings about professional learning communities and lesson study from each group. Each member of the English department spontaneously discussed lesson study as part of professional development, and the researcher used the questions pertaining to isolation and collaboration to mention lesson study with the Career and Technical Education teachers, although many of them brought it up without the researcher mentioning it.

Of the 22 teachers interviewed, 5 were male and 17 were female. Two were first year teachers (one from each department). One was retiring and had 32 years of teaching experience. Thirteen of the 22 had been teaching for 10 or more years on the K-12 level. This variety in experience gave depth and richness to the interviews; it also meant that

most of the teachers had taught for other districts and had not been involved in lesson study their entire teaching careers. This was especially useful when interviewing the English department since many of them had other professional development experiences outside this district with which to compare their current situation.

The interviews were semi-structured, which according to Merriam (2009) means that “either all of the questions are more flexibly worded, or the interview is a mix of more or less structured questions” (p. 90). In this case, the questions were structured and open-ended, which allowed flexibility during the interview. If the teacher being interviewed chose to pursue a new line of thought, the researcher followed his or her lead, since the purpose was to elicit a deeper understanding of the teacher’s experiences. The researcher did not always ask each question exactly as written on the interview protocol, depending on what the teacher had already said in a previous answer. The researcher also made use of her knowledge of the school and of lesson study to ask probing questions when opportunities were presented, in order to gain a clearer understanding of a teacher’s perceptions, attitudes or experiences. All the interviews were audio-taped and transcribed verbatim.

Quantitative Data Collection

The Personal Responsibility Orientation to Self Direction in Learning Scale (PRO-SDLS) (Stockdale & Brocket, 2011) was the data-gathering instrument for the quantitative portion of this research. This instrument assesses learners personal responsibility orientation and their self directed learning tendencies. The PRO-SDLS uses a Likert-scale from 1= strongly agree and 5= strongly disagree for twenty-five of the questions in order to measure 4 constructs: self efficacy, initiative, control and

motivation. The Likert-scale was chosen because it best reflected participants' degree of agreement or disagreement with statements regarding their beliefs about their response to self-directed learning opportunities. Survey questions 3, 6, 11, 13, 16, 18, 20, 21, 22, 24, & 25 were negative in relation to the construct and were reverse scored. Including reverse scored items avoid "confounding the measure of the trait with individual differences in willingness to say yes (acquiescence)" (Nunnally & Bernstein, 1994, p. 314). In other words, negatively worded questions were included in the survey to avoid participants' tendency to "agree" with each question. The researcher added 10 questions to the original survey in order to gather demographic data on the population she was studying.

The PRO-SDLS instrument is designed for use in an educational setting. A 2010 study by the instrument's authors confirmed that the PRO-SDLS is a highly reliable instrument (Stockdale & Brockett, 2011). The overall calculated reliability coefficient (alpha) is .91. Cronbach's alpha for the four subscales are the following: control (.78), initiative (.81), motivation (.82), and self efficacy (.78). All the coefficients are greater than .70, which is considered acceptable (Gall, Gall, & Borg, 2003).

The PRO-SDLS is scored by adding the scores of questions pertaining to the constructs of initiative and control together and the scores of questions pertaining to the constructs of self efficacy and motivation together. The first subscale combination (initiative and control) provides information about the process of self-directed learning, while the second subscale combination (self efficacy and motivation) measures self-directed characteristics of the learner. Brockett and Hiemstra (1991) identified two symbiotic dimensions of self-directed learning in their Personal Responsibility Orientation (PRO) model of self-directed learning: the "instructional method processes

(self-directed learning) and personality characteristics of the individual learner (learner self-direction),” indicating that self-directed learning is as much a process as is it as personal orientation. In their model, Brockett and Hiemstra (1991) frame the actual learning and the characteristics of the learner within the broader concept of personal responsibility. Grow (1991) and Garrison (1997) added the concepts of motivation and control to the framework. Knowles (1975) uses the term *initiative* in his definition of self-directed learning, indicating that a personal sense of responsibility for one’s own learning becomes the catalyst for self-directed learning. Building on Brockett and Hiemstra’s PRO model, Stockdale and Brockett (2011) proposed the Personal Responsibility Orientation to Self Direction in Learning Scale, combining the constructs of self-efficacy (Bandura, 1997), motivation, control and initiative in order to measure both the act of self-direction learning (the teaching-learning transaction) and the characteristics of a self-directed learner. Combined, these four constructs are intended to measure an individual’s self-directedness in learning.

Prior to disseminating the survey instrument, the researcher received approval from the Institutional Review Board (IRB) for the research project (Appendix H) and permission from school district A’s superintendent (Appendix I) and school district B’s superintendent (Appendix J) to request participation from all the teachers in each district. The survey was distributed electronically via Qualtrics to teacher school email accounts in both districts. The researcher does not know exactly how many teachers actually received the email, so it is impossible to ascertain the exact number of possible responses. The *n* for completed surveys was 171.

Data Analysis

Data analysis within a mixed methods research study provides a more thorough analytical overview of the data than either quantitative or qualitative data analysis alone (Onwuegbuzie & Teddlie, 2003). Because this was a sequential exploratory mixed methods research study, data analysis occurred at two different times. Qualitative data analysis occurred first. Teacher interviews were transcribed, and the responses were compared individually and collectively, allowing the researcher to note common themes. The questions were designed to elicit responses regarding professional development, self-directed learning, collaboration, reflection and identity. After the interviews were transcribed, the researcher reviewed the responses several times. Responses were then grouped based on question type (i.e. collaboration, identity, reflection, etc), and the comments were categorized based on repeated concerns and ideas via coding. Coding is a process that allows the researcher to interact with the data in order to make comparisons and discover themes (Corbin & Strauss, 2008). It provides a method to organize the data, not just describe it. The qualitative data was first grouped by question type. Then common responses within those groups were put into sub-groups. These groupings provided insight into how teachers in separate departments were similar and different in their responses to questions about professional development, collaboration, reflection, isolation, self-directed learning, and identity.

Quantitative data was analyzed using a one way MANOVA to test three hypotheses: teachers participating in some form of a professional learning community will have higher self-efficacy scores than teachers who do not participate in a professional learning community; 2) teachers who participate in a professional learning

community will have higher self-directed learning scores than teachers who do not participate in a professional learning community; and 3) teachers who participate in lesson study will have higher self-efficacy and self-directed learning scores than teachers who participate in a different type of professional learning community. The independent variables were participation in a professional learning community (YES, NO), as well as the independent variables of participation in lesson study (YES, NO). The dependent variables were self efficacy, motivation, initiative, and control. The data were also examined to see if participants in a professional learning community or in lesson study exhibited higher levels of self-directed learning characteristics as measured by the constructs of motivation, initiative, and control. Using SPSS, the researcher recorded all scores from the instrument for each participant. Descriptive statistics and tables were utilized to display the results. To test each hypothesis to determine if a relationship exists between the independent and dependent variables, *t*-tests and a one way MANOVA were run.

Summary

This chapter described the relevance of using a two-phase sequential mixed methods approach to answer the research questions posed in this study. Both the qualitative and quantitative portions of the research design were discussed, as were the data collection and analysis. The participants for both phases of the research study were described, and the rationale for using this population was explained. The purpose of this two-phase sequential mixed methods study was to examine the relationships between two specific types of teacher professional development and teacher self efficacy and self-directed learning in order to gain a greater understanding of the role professional

development plays in teacher efficacy and identity. Interviews were conducted with a purposefully selected sample of two distinct groups of teachers to further explain and examine the role professional development, collaboration, reflection and isolation play in teacher efficacy and identity. The data analysis and findings from this study are provided in Chapter IV.

CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

This chapter includes an analysis of the data collected using qualitative and quantitative methods. This two-phase sequential mixed methods study consisted of a qualitative phase, during which 22 teachers from one high school were interviewed. The qualitative data gathered from these interviews served to answer the three qualitative research questions. Emergent themes from the interviews informed the researcher's choice of quantitative instruments. The qualitative data were collected over a 3-week period from April-May, 2012, and quantitative data were collected over a 3-week period in August, 2013. During the quantitative phase, a modified version of the Personal Responsibility Orientation to Self Direction in Learning Scale (PRO-SDLS) was placed on Qualtrics and the link was emailed to all the teachers in two school districts located in south Mississippi. Data from the instrument were used to test the three hypotheses of this study. These hypotheses answered two of the research questions.

This chapter is divided into two main sections beginning with an explanation of the qualitative findings, followed by an explanation of the quantitative findings. At the conclusion, a summary of the findings is presented.

Qualitative Data Analysis

For the first phase of this study, the qualitative case study method (Merriam, 2009) was used to interview two distinct groups of teachers from one school district: the English department and the Career and Technical Education department. These two groups fit the definition of a bounded system in a particular context because they all taught at the same high school and participate in school-wide professional development

activities, as specified by their principals. Between April 30 and May 23, 2012, the researcher conducted face-to-face interviews with 22 teachers at Elysium High School (pseudonym to protect anonymity). Ten teachers from the English department and 12 from the Career and Technical Education department voluntarily participated; 2 English teachers declined to be interviewed, citing time constraints. The purpose of the interviews was to glean a deeper, richer understanding of teachers' experiences with professional development including lesson study and their perceptions on collaboration, reflection, isolation and identity. Rock (2005) asserted that the qualitative case study "is the most appropriate research approach for this type of study because of the nature of the study and the intent of the researcher to gain an in-depth understanding of the lesson study process and its meaning for teachers through their own voices and words" (p. 1).

Twenty-five questions were used in the interview protocol with 22 teachers, representing the English department, which participated in lesson study, and the Career and Technical Education department, which did not. All 22 teachers worked at Elysium High School in school district A. The questions were designed to measure teachers' perceptions of their identity, professionalism and reflective practice, as well as to gather information about their views on the value of collaboration and professional development. The interview protocol can be found in Appendix A.

Basic demographic information was gathered at the beginning of each interview, including how many years the teacher had taught overall and how many of those had been at Elysium High School; what subject area the teacher currently taught; if other subjects had been taught in the past; and if the teacher was a National Board Certified teacher. This question was asked because it connects with the literature on professional

development and teachers as lifelong learners. Table 1 provides demographic information on the participants.

Table 1

Demographic characteristics of interview participants

Name (pseudonym)	Years of K-12 teaching experience	Years teaching at Elysium High School	NBCT	CTE or English
Vincent	32	28	N	English
Merry	28	17	Y	English
Lily	22	17	Y	English
Ben	20	17	Y	CTE
Hillary	18	18	N	CTE
Keith	16	16	N	CTE
Kayley	15	15	Y	CTE
Sid	13	10	N	CTE
Ruby	11	4	N	CTE
Tessa	11	11	N	CTE
Carley	10	10	N	English

Table 1 (continued).

Nan	10	10	N	CTE
Maggie	9	8	N	CTE
Mandy	7	6	Y	English
Kris	5	5	N	CTE
Nicole	5	5	N	English
Annie	3.5	3.5	N	English
Charles	3	3	N	CTE
Ivy	3	3	N	CTE
Jenny	3	3	N	English
Lori	1	1	N	English
Paula	1	1	N	CTE

Of the 22 teachers interviewed, 5 were male and 17 were female. Two were first-year teachers, one from each department. One was retiring that year with 32 years of teaching experience. Thirteen of the 22 had been teaching for 10 or more years on the K-12 level. Among the English teachers, the median for number of years teaching was 12.25. Among the Career and Technical Education (CTE) teachers, the median was 10.3 for number of years teaching. Five were National Board Certified Teachers (NBCT), 3

from the English department and 2 from the CTE department. The two departments were similar in demographics, adding to the appropriateness of their comparison. Their variety in experience gave depth and richness to the interviews; it also meant that some of the teachers (36%) ($n=8$) had taught for other districts and had not been involved in lesson study their entire teaching careers. This was especially useful when interviewing the English department since 60% ($n=6$) of them had been teaching in the district before lesson study was introduced in 2007, and 50% ($n=5$) of them had worked for other school districts, giving them experiences in other schools with which to compare their current professional development.

The remaining 15 questions focused on the teacher as a professional (identity), self-directed learning, beliefs about the purpose of professional development and what kinds were most beneficial; the importance of collaboration with peers and the frequency with which he or she collaborated with others; the importance of reflection and the kinds of experiences that caused him or her to reflect; feelings of isolation and what could be done to overcome them; whether or not he or she felt supported by the administration and in what ways; whether or not he or she felt supported by colleagues and in what ways; and what experience(s) had given him or her the greatest sense of professional or personal accomplishment as an educator. Efficacy was measured by examining answers to questions on identity, collaboration, and sense of accomplishment (see Table 2 for question grouping).

Table 2

Interview questions grouped by topic

Topic	Interview Question
Self-Directed Learning/Learning Styles	7c, 8
Professional Development	9, 10a, 10b, 10c
Collaboration	11, 12, 13, 14
Reflection	15, 16
Isolation	17, 18
Identity/Professionalism	7a, 7b, 10a, 19, 20
Overall Efficacy	7a, 7b, 10a, 19, 20, 11, 12, 13, 14, 15, 16

Through semi-structured interviews, the research sought to answer 3 qualitative research questions:

1. What similarities and differences exist between the teachers who participate in the qualitative interviews who participated in traditional professional development and the teachers who participated in the interviews who also participate in lesson study, specifically their perceptions of their efficacy, professional identity and the value of the professional development in which they participate?

2. Among the lesson study group, how will teachers describe themselves as professionals and as adult learners?
3. Among the non-lesson study group, how will teachers describe themselves as professionals and as adult learners?

Summary of Qualitative Findings

Two themes were identified in the literature prior to the interviews and were used when constructing the interview protocol; four themes emerged as the researcher analyzed the transcripts and audio recordings, themes are closely related to current literature on effective professional development (Feiman-Nemser, 2012), teacher identity (Cohen, 2010/2011), collaboration (Darling-Hammond et al., 2009), and self-directed learning theory (Stockdale & Brockett, 2011). The researcher used an *a priori* approach to identify and label the four themes that emerged during the interviews, anticipating some themes based on the types of questions she asked (Dey, 1993) but discovering others through open coding (Ryan & Bernard, 2003).

The two themes identified in the literature prior to the interviews and used to construct the interview protocol are:

1. Professional identity is more closely related to perceptions about how teachers believe those outside the classroom view them than how teachers view themselves. These perceptions can be more defining than rank, title or degree.
2. Lifelong learning, i.e. self-directed learning, is consistently seen as vitally important to the learner as a professional and as an individual.

The four themes that emerged from this study are:

3. Professional development must be immediately applicable, continuous, and closely related to the teacher's subject matter in order to be perceived as effective.
4. Collaboration is effective and desirable if it is done within subject areas, but it requires transparency, an open mind and structure.
5. Reflection is a necessary component of effective teaching.
6. Self-efficacy, as evidenced by the belief that teachers can and do make a difference in the lives of the students they teach, is a vital component of successful teaching/learning transactions.

Two themes were identified in the literature and used in creating the interview protocol: identity and life-long learning. The researcher asked participants how they viewed themselves as professionals and as learners, and their responses correlated with themes identified by researchers regarding public perception and national education policy (Beijaard et al., 2004; Sachs, 2001).

Theme One: Professional identity is more closely related to perceptions about how teachers believe those outside the classroom view them than how teachers view themselves. These perceptions can be more defining than rank, title or degree.

Questions 7a and 7b, 'How would you describe yourself as a teacher?' and 'How would you describe yourself as a professional?' were designed to gain an understanding of the way a teacher might view himself or herself, inside and outside the walls of the classroom. Most respondents asked for clarification of what those questions "meant" before answering. Answers to Q7a ranged from adjectival lists of character traits – *kind*,

demanding, laid back, passionate, thoughtful, hard-working, entertaining, patient, forgiving – to short phrases describing their teaching style - “*demanding but fair,*” “*loosely structured,*” “*hands-on,*” “*like a coach,*” “*easy to get along with.*” The next question, 7b, asked teachers how they described themselves as professionals. Many respondents gave answers very similar to the ones they had provided to the previous question (describe self as a teacher). Again, responses ranged from personal attributes – *listener, problem-solver, strong-willed, eager, perfectionist, appreciative* – to comments about the types of classes they took at a local university or by having earned an advanced degree or certification. Several CTE teachers, many of whom came to education through alternate route certification, answered this question by referencing their time in the ‘professional world’ before becoming a teacher. Tessa responded that she had spent 15 years in the business world before becoming a business education and digital media literacy specialist, and “was more respected in the professional world than in education. There were more opportunities for me in my field.” Kayley had been a full-time nurse prior to becoming a teacher. In describing herself as a professional, she said, “I’m less confident in the classroom than I was in the hospital.” Nan referred to her work in the “outside” world where she said people would “trust I [could] do [my job].” Sid responded, “How I see myself depends on those I’m with. It’s different when I’m with other AG (agriculture) teachers or a group of farmers.” For Sid, Nan, Kayley and Tessa, the opinions of others seemed to influence the way they perceived themselves as professionals, despite their advanced degrees and National Board Certification.

Ben, another Board Certified teacher, contended, “I think other professionals see us [teachers] as lesser. We are the same as other professionals. A doctor might say that

what he does is a matter of life or death, but I would say that we are doing the same thing with kids.” Ben’s observation mirrors much of what current culture implies – teachers are somehow perceived as less than other professionals, despite the high expectations they are asked to meet by virtue of their role in society (Punch & Tuetteman, 1996).

Kris’s response was possibly the most insightful since she was the only one in either department to have a terminal degree in her field. She indicated that sometimes she felt people in the community were negative when

they [are] looking at me as a high school teacher. Maybe I wouldn’t get those looks if I was working at a college or an industry. But it really doesn’t bother me. If I didn’t like teaching here, I’d be doing something else. What’s most difficult is if the negative response comes from your family and friends. When they ask ‘Why are you teaching high school?’ and their tone indicates that I’m wasting my time. This is what I enjoy doing.

Kris, like other CTE teachers, was aware of the negative perceptions others may have about teachers as professionals, but she indicated that she was a teacher because she enjoyed what she did. That was more important to her than any status her advanced degree might bring her outside the K-12 world. Regardless of years of experience or degree or certification, teachers consistently responded to questions about their identity by looking first within themselves at personality traits that shaped their teaching style, and then by acknowledging the often negative perceptions of others, their identity being at least influenced, if not affected, by public perception (Beijaard et al., 2004).

Theme Two: Life-long learning, i.e. self-directed learning, is consistently seen as vitally important to the learner as a professional and as an individual.

The researcher chose to use the term ‘life-long learner’ instead of ‘self-directed learner’ in the interview protocol because the term ‘life-long learner’ has become a part of educational jargon whereas ‘self-directed learner’ is used more often in the adult education literature. All of the respondents indicated they saw themselves as life-long learners, continually seeking to learn more in their profession and in topics that interested them, and 20 of them included the phrase “hands-on” or “active” when asked what kind of learning they most enjoyed. Responses were generally animated and included phrases such as, *constantly seeking ways to improve, always reading, wanting to learn about things I am interested in, and learning is a priority.*

Charles, a CTE teacher with 3 years of experience, indicated that he was constantly learning: “I learn from students, everywhere I go, the Internet, television. I take it all in. I enjoy active learning, such as watching someone do something or reading about how something is done and immediately trying it myself.” His response reflects adult learning that is wholly learner-directed and has no end point, the epitome of ‘life-long’ learning (Lindeman, 1926).

Ben, a veteran CTE teacher of 20 years who teaches technology-based classes, described himself as a life-long learner as it related to his classroom:

I learn something new every day. I wouldn’t say my learning is happenstance. I think it [learning] is problem based, things that come up in class. We have to problem-solve for the classes. I try to learn as I’m preparing to teach the students. It makes me feel like I have a higher sense of accomplishment. I enjoy problem based learning.

When asked by the researcher whether it was beneficial when he was sent by his school district to workshops, he replied:

If you want me to learn something, send me to a workshop that I can use in my classroom. I don't need all this 'hold my hand, kumbaya stuff' that's not going to amount to a hill of beans. When I'm teaching, I'm learning as well. New technologies come across that I don't know anything about or very little about. So we troubleshoot through it. My learning is more observation and problem solving. You have to try it. Just because it works on paper doesn't mean it will work in real life.

His observation correlates with Gibb's (1960) assertion that adult learning must be problem-centered, experience-centered and relevant in order to be effective and worthwhile. Lily, an English teacher with 22 years of experience, shared that she felt life-long learning should be about more than just what she was interested in: "I'm always reading. I make myself read stuff even it isn't particularly interesting to me. Things like current events, science, and history. I'm even trying to be more interested in politics." Lily's focus on continuing to learn and to stretch beyond the topics that naturally interest her is another hallmark of self-directed learning (Brockett & Hiemstra, 1991). While the term 'self-directed' learning conveys the image of a learner focused on self (suggesting that the learning only involves and influences the individual), there is also an element of responsibility and motivation that make it specifically aligned with adult learning. Identification is a form of autonomous motivation that causes the learner to choose the activity for reasons that meet a future goal rather than any immediate gratification (Stockdale & Brockett, 2011). Tessa, a CTE teacher, stated that her learning wasn't

always a choice; rather it was sometimes a demand placed on her by the nature of her vocation – “In the general scheme of things, I’ll always want to learn new things. Right now, because of these new classes I’m teaching, teaching myself before I can teach the students, my learning is by demand, not by choice.” Tessa’s admission is representative of identification motivation; she recognized a need in her professional life and chose to address that need as part of her role as a teacher and life-long learner.

Four themes emerged from the interviews that are closely related to the literature: qualities essential to effective professional development, the necessity of collaboration, and reflection, and the importance of self-efficacy.

Theme Three: Professional development must be immediately applicable, continuous, and closely related to the teacher’s subject matter in order to be perceived as effective.

Questions 9 and 10 dealt with professional development – its usefulness, applicability, and ultimately, its purpose. In short, every teacher interviewed responded that professional development should be practical and immediately useful to them in their classrooms. In general, they agreed its purpose was to influence student outcomes. Interestingly, none of the respondents identified the ways in which they were taught during a professional development activity as being problematic, although the literature is replete with criticism of traditional professional development models that do not recognize teachers as adult learners (Putnam & Borko, 2000).

Charles referred back to his own learning style when commenting on the usefulness of professional development: “The hands-on stuff is what I like. The last two summers we [construction teachers in the state] have gone to these workshops where we

do what the students are going to do. This gets me comfortable with certain things. Things I can immediately transfer back.”

When offered a repackaged, recycled learning opportunity, the unspoken question any teacher might ask is, “How valued and respected can I be if this is the type of learning they expect me to engage in and benefit from?” a question that addresses identity as much as learning. Sid’s evaluation of typical professional development connects back to this theme of identity:

The ultimate purpose of professional development? A lot depends on the professional development itself. A lot of time I feel like the professional development we get is not applicable. We’re just reinventing the wheel. Cycling things that we’ve tried in the past that may or may not work. They give it a different name, but they recycle and put a new name on it.

The general feeling in his response – that professional development is a waste of time – was repeated by four other teachers. Nicole described her experience: “I’ve never found district-wide [professional development] very useful. I learn more from other teachers in my subject area,” as did Merry who bemoaned the “hit and miss (mostly miss)” quality of much of the professional development she had experienced in her 22 years of teaching.

Ben was specific in what he wanted in professional development: “I want professional development that I can bring back and plug-in to my classroom with little or no effort. There’s no reason to reinvent the wheel.” Several teachers identified a key attribute of ineffective professional development: its lack of purposeful, focused learning objectives. Adult learning occurs in real contexts and addresses real needs. The frequency with which teachers referred to their desire for hands-on, practical and transferable

learning opportunities is representative of the general dissatisfaction many teachers experience in their professional learning. Like Tessa, they want “practical things [they] can put to use immediately, like how to handle students.”

When asked about the purpose of professional development, Ben replied sardonically, “What do I think is the ultimate purpose of professional development? Student achievement, of course. That’s the politically correct response, isn’t it?”

When asked what his perspective of the purpose was, he responded:

It depends on who you’re asking. The district is interested in providing better stuff than our rival district. Principals are interested in raising test scores. But I think for teachers it is to find something to plug-in to what they’re already doing. Not scrap everything they’re already doing. Teachers hone their craft. We change textbooks, our curriculum is rewritten; if something is not working, they throw it out. But no teacher wants to be told ‘You’re doing this wrong. Let’s throw this away. This is how you do it.’ That doesn’t sit well with me. Instead, professional development should be material that helps our students, things we can take back and use, no matter what discipline we teach. Teachers are professionals. They don’t like to be told ‘Hey, you’re doing this wrong.’ They like to be told ‘Hey, you’re doing some things really well, but here some things you can add to make things better.’

Like Ben, other teachers acknowledged that professional development was primarily about student outcomes but impacted them as well. Lily believed the purpose of professional development was to benefit both the student and teacher, “You can’t do a better job for the kids if you’re not trying to be a better learner yourself” connecting

professional development with life-long learning. Annie made a similar observation, “You have to be growing as an educator because your students are constantly growing. It’s all on-going – new discoveries, new methods.”

Theme Four: Collaboration is effective and desirable if it is done within subject areas but it requires transparency, an open mind and structure.

Questions pertaining to collaboration provided the most insight into the ways these 22 teachers saw themselves in a professional sense, although no direct references to professional identity were written in the interview questions. Responses included references to feeling criticized and vulnerable, as well as to feeling camaraderie and confidence within their departments and in their school. Teachers were asked what role collaborating with other teachers played in improving teaching and why they thought it was important to collaborate. Responses were varied but generally positive. Words like *awesome*, *encouraging*, and *enjoyable* were used in reference to collaborative activities, while phrases such as, *it forces you to ‘man up’ and contribute* indicated that while collaboration was beneficial, it was not without pitfalls and hardships.

The researcher expected to hear positive responses regarding collaboration from the English teachers but anticipated the CTE teachers would express disappointment or a sense of isolation when asked the same questions. This was not the case. CTE teachers do not participate in lesson study, a daily, job-embedded form of collaborative professional development that the teachers of core academic subjects participate in; however, they all shared examples of regular collaboration with other teachers in their CTE field, no matter what their school district or geographical location. While several CTE teachers used the phrase “department of one” when discussing themselves within the CTE department

which connotes isolation, the only negative responses to collaboration were connected to being forced to work with teachers who might dominate a group or concern that others would emphasize criticism rather than constructive feedback.

Sid described the way he collaborates with other teachers of agriculture in the state and the immediate benefits he saw from it:

In the area I teach in, I think overall in the state the AG [agriculture] program has good collaboration. We're constantly talking to each other through Blackboard or email or the phone. I think people outside AG don't understand that. Keith [another AG teacher on campus] and I have a close working relationship. What do you gain from collaboration? It gives you some idea if the direction you're headed is the right one. Someone in another district may be having the same experience and they can tell you what they're doing. No need to reinvent the wheel.

When asked if he was more open to suggestions from teachers in another district, he replied:

That's a loaded question. There's only one other person in this district . . .

It depends on the individual. Are they competent enough to be talking to you about this? This is a whole different beast than academic classes. The classroom management is different. Individualizing the learning experience for each child is totally different from academic programs. Again, it depends on the person.

Ben verified the importance of collaborating with teachers in the same subject area and/or grade:

One year [before lesson study was introduced] we had to join a critical friends group. These groups were inter-disciplinary, so you'd work with teachers from a

variety of departments. When it was my turn to present [a lesson], no one knew what I was talking about. No one had constructive feedback. We were supposed to bring something you were having trouble with and needed input on. I was the only vo-tech [vocational] person in a group of academic people. Science teachers don't think the way English teachers think. Their brains are hard-wired differently. Our department got left out of the professional learning communities [lesson study] five years ago because we're all departments of one. I don't really have a need for what my colleagues are teaching. Charles [the construction teacher] could teach us saw-sharpening techniques. Sid could tell us about heritage vs. hybrid tomato seed production. But what would be the point? I feel more a connection to the technology staff on campus than to the other faculty because we speak the same language. We're all technology nuts. It runs in circles. Someone says, "Hey have you tried this?" and suddenly we're all doing it. I think one of life's biggest rewards is finding a group of people you can connect with on multiple levels.

Lily's response to the topic of collaboration across disciplines was far more positive. She shared,

Once a month, we'd participate in a 'critical friends' group. It was fabulous. The different disciplines tend to be tied to different methods. The best feedback I ever remember hearing was, 'Have you tried doing it this way?' because vocational teachers are more hands-on, so they'd respond to lessons through that lens. I got lots of tech ideas from them. But it was difficult too. The school district required our participation but didn't give us the time. Once a month, we had to find an

hour after school when everyone could participate. However, when the district saw the value of what we were doing in our critical friends' groups, despite the difficulties, they decided to pilot lesson study, collaboration that would be done during the school day. Every day, our department has the luxury of time, not just time to look at lessons, but time for professional reading, discussion, assessments. This type of collaboration creates better practice.

Researchers validate Lily's positive assessment of collaboration (Darling-Hammond, 1997; Stigler & Hiebert, 1999). Some teachers within the English department indicated that lesson study could be hard at times. There was a vulnerability that came with presenting material before a group of teachers (who were knowledgeable in the same subject area) and asking for their critical feedback. One teacher in particular expressed his dissatisfaction and concerns about collaboration through lesson study in depth. He observed,

We are quick to find fault, yet we hesitate to encourage one another. I'm not sure PLCs are that beneficial. Before [lesson study], there was a lot of give and take in our departmental meetings. Once we started lesson study, things changed...

I feel uncomfortable in lesson study. I don't make many contributions because I realized that some people aren't interested in anyone's opinion but their own.

We're so quick to find fault with each other, especially when standing before the group, bringing the lessons we need the most help with. People are ready to tell you everything you did wrong, but no one seems to want to offer a remedy. I've seen so many hurt feelings and fears in lesson study. I know two young men who

each taught here a year; they got dispirited and burned out. Both left this district; one left the teaching field all together.

Vincent is not alone in his lackluster evaluation of the effect a professional learning community can have on a department. Hart and Carriere (2001) note that most teachers do not like being observed in their classrooms, and they become defensive when their ideas are questioned. There is also an element of risk-taking which can create a sense of vulnerability when a group engages in the business of appraising what works and what needs to change (McLaughlin & Talbert, 1993). Lily provided insight into possible reasons regular collaboration through lesson study might be difficult for some teachers: “In the South, women are trained that it’s rude to question others; it’s perceived as threatening. I guess it’s cultural – authority is supposed to be unquestioned. So the type of work we do in lesson study can come across as threatening, and a lot of teachers aren’t comfortable with the process. Organization, leadership, and structure can help offset that sense of vulnerability, but it takes time and effort.”

Theme Five: Reflection is a necessary component of effective teaching.

Questions 15 and 16 were about reflection and its role in effective teaching. Teachers were asked when they tended to engage in reflection; when things went wrong, when things went well, or a combination of both. The majority of responses focused on the combination – when things went wrong and when things went well. Vincent acknowledged that he most often reflected when “I see those puzzled expressions or when I get the exact same question, period after period. Then I ask myself, what do I need to change in order to help my students learn?” This sentiment was echoed by Hillary: “Students have a role when things go wrong. But if they don’t get it, it’s my

responsibility to make sure they do. Reflecting helps me realize if students actually learned.” Sid noted that “Reflection is an ongoing thing. I don’t sit down and say, let me reflect. It’s like taking a trip. It’s always new. It’s not something you can gauge.”

Charles felt that reflection helped him keep things in perspective:

Reflection helps me build patience. When I think back on when a student did something wrong, I catch myself thinking, it wasn’t that big of a deal, I’m overthinking it. The next day I try to start with a clean slate, but I think every teacher should do that. I also use reflection to help me cull ideas, make notes about what I want to do next year.

Brookfield (1995) encourages teachers to engage in self-reflection and in reflection on how their teaching impacts students. These types of reflection are necessary for growth and lasting change. The teachers in this study gave indications that they engaged in both types of reflection as they sought to improve their practice.

Theme Six: self-efficacy, as evidenced by the belief that teachers can and do make a difference in the lives of the students they teach, is a vital component of successful teaching/learning transactions.

The last question of the interview asked teachers to reflect on experiences or student outcomes that had made a significant impact on their sense of accomplishment. This question sought to examine teacher self-efficacy, a teacher’s beliefs about his or her ability to impact student learning and make a difference for every student in their classroom (Tobin et al., 1984). The researcher made notes during the interviews to identify the types of experiences that encouraged higher efficacy as well as noting connections between answers to question 21 and previous answers to questions about

identity and collaboration to determine if a relationship existed. The experience that predominately made a teacher feel accomplished was not, surprisingly, earning a degree or writing a successful grant. It was hearing directly from students for whom they had made a difference, from the parents of students whom they'd helped, from administrators observing them being successful in the classroom, and from colleagues who indicated they respected and trusted the teacher. Responses from others – in the form of a student “thank you” or an acknowledgement of the role a teacher played in a student’s success were the most commonly cited experiences that led to increased efficacy.

Lily responded to this question by explaining her role in establishing senior projects at the high school. While it had taken 10 years for the program become an unquestioned part of the high school experience, she said that having to go toe-to-toe with parents for so long had increased the feeling of satisfaction that came when parents and administrators vocalized their appreciation of her dedication. Kayley said her greatest sense of accomplishment came from seeing her students be successful after high school and knowing she had played a part in their success. Conversely, she felt a strong sense of responsibility whenever a student chose to drop-out of school, whether or not she had played any role in the student’s decision.

Hillary’s sense of accomplishment was tied to the number of healthcare providers in the area who had been a part of her [Allied Health] program and attributed their interest in the medical field to her class. Mandy cited administrators coming to her as the “expert” and asking for teaching tips to help new teachers. Other phrases commonly used to answer this question were “*students using what I taught them in real life,*” “*a student choosing not to drop out after engaging in the hands-on learning I provided,*”

“helping students be successful in national competitions,” and *“having kids come back and tell me that I made a difference in their lives.”* None of the 22 teachers provided answers that pertained to their professional accomplishments (i.e. degrees, certification, or publication) or to having students who scored well on standardized testing. Even Lily’s response to how senior projects provided her greatest sense of accomplishment was directly related to parents and administrators recognizing the value of her efforts. These responses mirror the characteristics of high teacher efficacy discussed in the literature (Bandura, 1981; Gibson & Dembo, 1984).

Both the themes identified in the creation of the interview protocol and the themes that emerged from the interview data are dominant topics in the literature on teacher professional development, identity, collaboration, and reflection. The qualitative methodology utilized in this study indicates that both groups of teachers displayed high levels of efficacy, whether or not they participated in lesson study. With few exceptions, teachers from both departments indicated they felt confident in their ability to collaborate effectively with colleagues, reflect on their teaching and make appropriate changes as necessary, and they saw themselves as active [self-directed] learners. Years of teaching experience did not seem to play a significant role in how teachers perceived their professional identity or their ability to do their jobs well, nor did National Board certification.

The qualitative questions the researcher sought to answer were how 22 faculty members of a high performing school would describe themselves as lifelong learners, as collaborators, as reflectors, and as professionals. Analyzing the six dominant themes that emerged from the interview data indicated that collaboration, whether in the form of

lesson study or not, was simply one of the variables that influenced teacher efficacy and identity. Each teacher expressed high levels of conscious self-directed learning tendencies (i.e. recognizing themselves as life-long learners), a hallmark of adult learning theory, indicating a relationship between self-directed learning and identity, efficacy, and collaboration; however, analysis of the data did not provide enough information to determine which variables were the cause and which were the effect. The researcher used the data analysis to determine which quantitative instrument to use in the second phase of the study. Based on the seeming relationship between self-directed learning, efficacy, and identity, the researcher chose the Personal Responsibility Orientation to Self Direction in Learning Scale (PRO-SDLS) (Stockdale & Brockett, 2011) because it measures self efficacy, motivation, initiative and control in relationship to self-directed learning. The results of the quantitative portion of the study follow.

Quantitative Data Analysis

This section presents the results of the quantitative data analysis. Included are descriptions of the participants, reliability, descriptive statistics, and validity scores for the 35 item PRO-SDLS.

The researcher sent invitations to teachers to participate in this study via email to 2 school districts in south Mississippi. Qualtrics software was used as the platform for this web-based survey which was accessible to invited participants for a 3-week period via a web-link embedded in an email (Appendix C). The research instrument was comprised of 35 items, 25 of which were on a 5-point Likert-scale and 10 of which collected demographic information in regards to grade level, years of experience, National Board of Professional Teaching Standards certification, highest degree earned,

subject matter taught, and questions pertaining to participation in professional development and professional learning communities.

Once the three-week quantitative data collection period ended, raw data were downloaded from Qualtrics to SPSS version 2.22. Responses were obtained from 171 teachers. A response rate could not be calculated because the invitations to participate in this study were distributed through group email servers via each districts' computer system. Based on data obtained from the Mississippi Department of Education, the researcher estimated that approximately 600 teachers received an invitation to participate in this study. The most recent data available for school district A and school district B were gathered from the Children's First Report Cards for 2010-2011, available on the Mississippi Department of Education website (Table 3). The number of teachers for school district A was 269. The number of teachers in school district B was 367. However, the specific number of teachers who actually received an email invitation to participate in this study is unknown. Prior to analysis, data were screened for missing and outlying values. Qualtrics recorded a total of 185 responses to the survey; however, only 171 surveys were completed, so responses from the 14 incomplete surveys were not included in the data analysis. A descriptive analysis was conducted to determine the frequency of valid responses for each of the items in the survey instrument. Following descriptive analysis, statistical analyses of the research hypotheses were conducted.

Description of Sample

Teachers from two similar school districts in south Mississippi were invited to participate in this study. Both school districts were comparable in number of schools and their accountability rating. School district B had a larger student population (1,401 more

students) and employed 98 more teachers. Both districts had a comparable number of National Board Certified Teachers (12.2% of school district A's teachers; 9.5% of school district B's teachers). There was a 17.4% difference in the percentage of students receiving free and reduced lunch; school district A can be considered a somewhat more impoverished school district than school district B for this reason.

Table 3

Demographic characteristics of the two school districts

	Students Enrolled	Teachers	National Board Certified Teacher	Number of Schools	Free & Reduced Lunch Participation	State Accountability Label
School District A	3978	269	33	5	54.75%	"A"
School District B	5379	367	35	6	37.61%	"A"

The PRO-SDLS survey instrument was distributed electronically to teachers in both districts via their school email accounts. The researcher sent the survey instrument through each school district's email servers after receiving written permission from the superintendents from school district A (Appendix I) and school district B (Appendix J). Over three-fourths (87%) of the participants were women, and 13.4% were men (Table 4). These percentages are comparable to the national averages for female and male teachers. According to the U.S. Department of Education (2007), there are three times as many women working as public school teachers as men.

Figure 1 presents the number of years of teaching experience for the teachers participating in this study. The highest percentage rate for years of teaching experience was 11-15 years (23.3%), with 1-5 years (20.9%) and 6-10 years (20.3%) closely aligned, comprising 64.5% of the sample as having taught between 1 and 15 years.

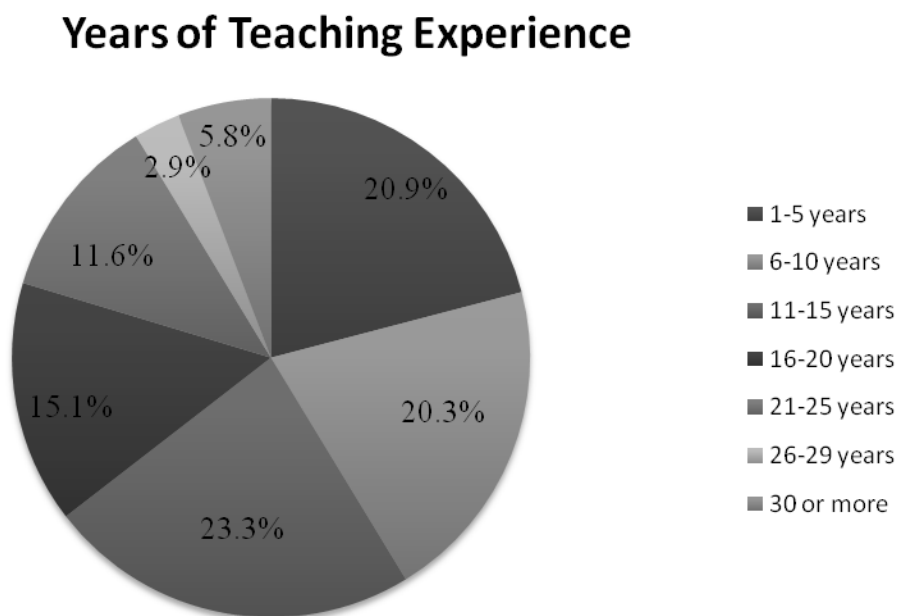


Figure 1. Years of Teaching Experience.

Of the 171 teachers who completed the survey, 114 had a master's degree (66.3%), while a combined total of 5.8% ($n=10$) of teachers had gone on to complete a specialist or doctoral degree. The U.S. Department of Education reports that as of 2007-2008, 52% of all public school teachers in the United States hold a Master's degree or higher in their field (Aud et al., 2012). The participants in this research study exceed the national average for obtaining advanced degrees.

Table 4

Highest level of education completed

	<i>N</i>	Percent
Bachelor's degree	47	27.3
Master's degree	114	66.3
Specialist degree	6	3.5
Doctorate degree	4	2.3
Total	171	100.0

Of the 171 teacher participating in this study, most (78.5%) also participated in a Professional Learning Community (PLC) and 61% of those teachers (105) participated in a specific type of professional learning community called Lesson Study (Table 6).

Respondents who answered yes to Question 33 (Do you participate in a specific type of PLC known as Lesson Study?) are assumed to have answered yes to Question 32 (Do you participate in a Professional Learning Community?)

Table 5

Teachers in Professional Learning Communities and/or Lesson Study

Participation in a Professional Learning Community			Participation in Lesson Study			
	<i>n</i>	Percent	<i>n</i>	Percent	<i>n</i>	Percent
Yes	135	78.5	Yes	105	61	
No	36	20.5	No	66	39	
Total	171	100	Total	171	100	

School districts are assumed to provide a certain number of professional development opportunities for their teachers each year. As part of the 5-year license renewal requirements in Mississippi, a teacher holding a Class A license (Bachelor's degree) must earn either a minimum of 10 continuing education credits (CEUs), 3 semester hours of coursework and 5 CEUs, 6 semester hours of coursework, or complete the National Board for Professional Teaching Standards certification process. Teachers holding class AA, AAA, or AAAA licenses (Master's, Specialist, or Doctorate) must complete 3 semester hours of coursework, 5 CEUs, or complete the National Board for Professional Teaching Standards certification process for license renewal (Mississippi Department of Education). School districts are not required to offer a specific number of professional development opportunities to their teachers each year, so there are instances where teachers seek out professional development in order to meet licensure renewal requirements only, rather than seeking professional learning for the sake of learning only. Question 35 did not ask teachers to specify why they pursued professional development in addition to what was offered by their district.

Ninety-eight teachers (57%) reported participating in 1-3 professional development activities in addition to the ones provided by their school district (for the 2012-2013) school year, and 23.3% ($n=40$) reported participation in 4-6 professional development activities outside of their districts. Twenty-six teachers (15.1%) indicated they had not participated in any professional development opportunities outside of the ones offered by their school district (Table 6).

Table 6

Teacher professional development sought outside the school district

Professional			
Development Sought			
Outside School District	Frequency	Percent	
1-3	98	57.0	
4-6	40	23.3	
7-10	7	4.6	
None	26	15.1	
Total	171	100	

Instrument

The Personal Responsibility Orientation to Self Direction in Learning Scale (PRO-SDLS) measures an individual's self-directedness in learning using two overarching constructs, the Teaching Learning Transaction (TLT) and Learner Characteristic (LC). These constructs are measured using four subscales: motivation, initiative, control, and self efficacy. The Teaching Learning Transaction component is measured by combining the responses for the subscales of initiative and control. Each of these subscales consists of six Likert-scale items. These questions identify self-directed learning in relation to "external factors or characteristics of the teaching learning experience and a learner's willingness to accept personal responsibility accomplishing the learning transaction" (Stockdale & Brockett, 2011, p. 164). The behavior associated with the learning process is measured through questions identifying initiative and control in

learning situations. The Learner Characteristic construct is measured by combining the subscales for motivation and self-efficacy. The self-efficacy subscale consists of six Likert-scale items, and the motivation subscale consists of seven Likert-scale items. Combined, these questions identify internal characteristics that promote self-direction in learning, namely attitudes and beliefs that “predispose one toward taking primary responsibility for their learning” (Stockdale & Brockett, 2011, p. 165).

The researcher modified the existing 25-question PRO-SDLS, with the authors’ permission, by rewording the questions so that they applied specifically to teachers (rather than to adult students) and by adding 10 questions that gathered demographic information about the participants in the quantitative portion of the research project. The five-point Likert scale format used ranged from 1 (Strongly Disagree) to 5 (Strongly Agree), so initiative, control and self efficacy scores could range from 6 to 30, and the motivation score could range from 7 to 35. Questions on the survey were a mixture of positively and negatively keyed items. Positively key items are phrased so that agreement with the item being measured indicates a high level of the attribute being measured; negatively keyed items are phrased so that agreement with the item indicates a lower level of the attribute being measured. Therefore, a higher score on the subscale motivation would indicate a high level of the attribute (motivation); conversely, a low score on a subscale would indicate a low level of that attribute.

Combining positively and negatively keyed items on a survey helps guard against what Nunnally and Bernstein (1994) refer to as an individual’s willingness to “acquiesce.” The PRO-SDLS contains 11 questions that are negatively keyed and were reverse scored before any analysis was done on the data. Reverse scoring the negatively

keyed questions ensures that both positively keyed and negatively keyed answers are consistent in what “agree” and “disagree” are meant to measure. The researcher identified the negatively keyed items on the survey (3, 6, 11, 13, 16, 18, 20, 21, 22, 24, and 25) and reverse coded the Likert-scale responses for those items (5=strongly disagree, 4=disagree, 3=sometimes agree, 2=agree, and 1=strongly agree) in SPSS.

The 25-item PRO-SDLS’s calculated reliability coefficient (alpha) for this study was .90 which was congruent with Stockdale and Brockett’s (2011) original finding of .91. Table 7 provides a comparison of Cronbach’s alpha for Stockdale and Brockett’s (2011) original PRO-SDLS study and the researcher’s study. While the researcher’s Cronbach’s Alpha are not exactly the same as Stockdale and Brockett’s, they all meet the commonly accepted reliability coefficient ($\alpha > .70$), and the relationship among factors is proportional except for initiative and control.

Table 7

Cronbach’s Alpha for the Four Factors on the PRO-SDLS

	Stockdale & Brockett (2011)	Current Study
<i>N</i>	195	171
Control	$\alpha = .78$	$\alpha = .70$ (.698)
Initiative	$\alpha = .81$	$\alpha = .75$ (.753)
Motivation	$\alpha = .82$	$\alpha = .86$ (.857)
Self-efficacy	$\alpha = .78$	$\alpha = .79$ (.788)
Overall	$\alpha = .91$	$\alpha = .90$ (.889)

Acceptable reliability coefficient at ($\alpha = 0.70$)

Based on the research questions guiding the quantitative phase of this study, three research hypotheses were developed. The research hypotheses stated that high self-

efficacy scores and self-directed learning scores were related to participation in a professional learning community and that participation in lesson study would result in higher self efficacy and higher self directed learning scores than participation in a professional learning community. Tables 8, 9, 10, and 11 provide the means and standard deviations for the dependent variables – initiative, control, motivation, and self-efficacy.

Table 8

Means and Standard Deviations of the Dependent Variable – Initiative

	Mean	Std. Deviation
Q 10. I often use materials I have found on my own to help me in creating lessons or classroom activities.	4.36	.716
Q 25. I always rely on the facilitator to tell me what I need to do in a work-related professional development in order to successfully use the new material.	3.78	.756
Q 2. I frequently do extra study of a topic after I participate in work-related professional development just because I am interested.	3.74	.854
Q 17. I often collect additional information about interesting topics even after a work-related professional development opportunity has ended.	3.69	.875
Q 9. I would rather take the initiative to learn new things on my own rather than wait for a work-related opportunity to foster new learning.	3.60	.928
Q 15. Even after a work-related professional development opportunity is over I continue to spend time learning about the topic.	3.47	.840

The mean for the questions on the subscale Initiative ranged from 3.47 to 4.36.

The mean coincided with Question 10 (I often use materials I have found on my own to help me in creating lessons or classroom activities), while the lowest mean coincided

with Question 15 (Even after a work-related professional development opportunity is over, I continue to spend time learning about the topic). The lower mean on Question 15 suggests that the professional development topics presented to these teachers were not highly relevant to them, while the higher mean on Question 10 suggests a higher level of the attribute being measured, initiative.

Table 9

Means and Standard Deviations of the Dependent Variable – Control

	Mean	Std. Deviation
Q 4. If I am not doing as well as I would like in teaching my subject matter, I always independently make the changes necessary for improvement.	4.23	.742
Q 5. I always effectively take responsibility for my own learning.	4.19	.687
Q 13. I usually ignore the material presented in work-related professional development if my administrator does not require that I submit any type of evidence of my learning of the new material.	4.01	.798
Q 6. I often have a problem motivating myself to learn.	3.94	.810
Q 19. I am very successful at prioritizing my learning goals.	3.85	.747
Q 23. I always effectively organize my professional learning time.	3.53	.798

The mean for the questions on the subscale Control ranged from 3.53 to 4.23. The highest mean coincided with Question 4 (If I am not doing as well as I would like in teaching my subject matter, I always independently make the changes necessary for improvement.), while the lowest mean coincided with Question 23 (I always effectively organize my professional learning time.). The lower mean with Question 23 suggests that

these teachers saw organization of their professional learning time as weaker than their ability to control and improve their individual teaching ability.

Table 10

Means and Standard Deviations of dependent variable Motivation

	Mean	Std. Deviation
Q 18. The main reason I participate in work-related professional development is to avoid feeling guilty or getting a poor evaluation from my administrator.	4.08	.772
Q 3. I don't see any connection between the material I learn in work-related professional development and my personal goals and interests.	4.02	.805
Q 8. I participate in work-related professional development because I WANT to, not because I HAVE to.	3.82	.972
Q 11. For most of my work-related professional development, I really don't know why I am required to complete the material or participate in the activity.	3.81	.937
Q 20. Most of the activities I complete for required work-related professional development are NOT really personally useful or interesting.	3.73	.943
Q 14. Most of the learning I do in work-related professional development is personally enjoyable or seems relevant to the work I do in my classroom.	3.57	.859
Q 16. The primary reason I participate in work-related professional development is to obtain a CEU, a certification, or to fulfill a job-related obligation that is required of me.	3.33	1.038

The mean for the questions on the subscale Motivation ranged from 3.33 to 4.08.

The highest mean coincided with Question 18 (The main reason I participate in work-related professional development is to avoid feeling guilty or getting a poor evaluation from my administrator.). Question 18 was negatively keyed, which indicated that a high mean coincided with a high level of disagreement to the question. The majority of the

teachers, then, disagreed that they participated in work-related professional development in order to avoid feeling guilty or getting a poor evaluation. The lowest mean coincided with Question 16 (The primary reason I participate in work-related professional development is to obtain a CEU, a certification, or to fulfill a job-related obligation that is required of me), which was also a negatively keyed question. A score of 3 or above would indicate disagreement with the question, suggesting that these teachers participated in work-related professional development for reasons other than obligation or credits.

Table 11

Means and Standard Deviations of dependent variable Self Efficacy

	Mean	Std. Deviation
Q 1. I am confident in my ability to consistently motivate myself.	4.27	.593
Q 12. I am very convinced I have the ability to take personal control of my learning.	4.23	.765
Q 24. I don't have much confidence in my ability to independently carry out my own professional learning.	4.20	.630
Q 22. I am unsure about my ability to independently find needed outside materials for my professional learning.	4.20	.637
Q 21. I am really uncertain about my capacity to take primary responsibility for my learning.	4.20	.655
Q 7. I am very confident in my ability to independently prioritize my learning goals.	3.98	.684

The mean for the questions on the subscale self-efficacy ranged from 3.98 to 4.27. The highest mean coincided with Question 1 (I am confident in my ability to consistently motivate myself.). The lowest mean coincided with Question 7 (I am very confident in

my ability to independently prioritize my learning goals). Both of these questions were positively keyed, which means a score of 3 or higher indicates a high level of agreement. The 4.27 score for Question 1 was the second highest score for all 4 subscales; Question 10 (initiative) received a median score of 4.36, suggesting that these teachers displayed high levels of initiative when creating their own classroom lessons and activities, and they displayed a high level of self-efficacy in motivating themselves.

Hypotheses

Based on the research questions guiding the quantitative phase of this study, three research hypotheses were developed and tested using *t*-tests and a one-way MANOVA.

Hypothesis One.

H1: Teachers participating in some form of a professional learning community will have higher self efficacy scores than teachers who do not participate in a professional learning community.

An independent-samples *t*-test was conducted to compare self efficacy for teachers who participate in a professional learning community ($n=135$, 79%) and teachers who do not participate in a professional learning community ($n=36$, 21%). There was no significant difference in the scores for teachers who participate in a PLC ($M=25.1$, $SD=2.8$) and who do not participate in a PLC ($M=25.2$, $SD=2.9$) conditions; $t(169) = -2.20$, $p = .826$. These results suggest that participation in a professional learning community does not have an effect on self efficacy.

Hypothesis 2

H2: Teachers participating in some form of a professional learning community will have higher self-directed learning scores, as measured by motivation, initiative, and control, than teachers who do not participate in a professional learning community.

Of the 171 teachers who completed the PRO-SDLS, 135 (79%) indicated that they participated in a professional learning community. Thirty-six (21%) did not participate in a professional learning community.

The Box's test was not significant and indicated that homogeneity of variance-covariance was fulfilled, $F(6, 24205) = .847, p=.533$, so the Wilks' Lambda test statistic was used in interpreting the MANOVA results. The multivariate tests are presented in Table 12.

A one-way multivariate analysis of variance (MANOVA) was conducted to determine if participation in a professional learning community made any difference in self-directed learning scores, measured by initiative, control, and motivation, compared to the self-directed learning scores of those not participating in a PLC. MANOVA results revealed a significant multivariate mean for Q32 (Do you participate in a PLC?), Wilks $\lambda = .939, F(3, 167) = 3.603, p = .015$.

Table 12

Wilks' Lambda for Q32

Effect		Value	F
Q32	Wilks' Lambda	.939	3.603 ^b

a. Design: Intercept + Q32, b. Exact statistic

As a follow up to MANOVA, an analysis of variance was conducted on each dependent variable pertaining to Question 32 (Do you participate in a PLC?). The dependent variable motivation was significant for participation in a PLC, $F(1,169) = 10.283, p = .002$. The dependent variable initiative was not significant for participation in a PLC, $F(1,169) = 3.006, p < .085$. The dependent variable control was not significant for participation in a PLC, $F(1, 169) = .553, p = .458$.

The univariate ANOVA results indicate that two dependent variables (initiative and control) which are used to measure self-directed learning were not significant; however, the dependent variable motivation was significant, indicating that teachers participating in a professional learning community have higher levels of the attribute motivation than teachers who do not participate in a professional learning community.

Table 13 presents the means and standard deviations for participation in a PLC by initiative, control and motivation.

Table 13

Means and Standard Deviations for Q32 and initiative, control & motivation

	Do you participate in a Professional Learning Community (PLC)?	Mean	Std. Deviation	N
initiative	Yes	22.86	3.40	135
	No	21.78	3.02	36
	Total	22.68	3.34	171
control	Yes	23.82	2.87	135
	No	23.42	3.04	36
	Total	23.74	2.90	171
motivation	Yes	26.93	4.47	135
	No	24.19	4.87	36
	Total	26.36	4.68	171

Hypothesis 3

H3: Teachers who participate in lesson study will have higher self efficacy and self-directed learning scores than teachers who participate in a different type of professional learning community.

Of the 171 teachers who completed the PRO-SDLS, 105 (61%) indicated that they participated in lesson study. Sixty-six (39%) did not participate in lesson study

The Box's test was significant and indicated that equal variances was violated, $F(10, 89384) = 2.309, p = .010$, so the Pillai's Trace test statistic was used in interpreting the MANOVA results. The multivariate tests are presented in Table 14.

A one-way multivariate analysis of variance (MANOVA) was conducted to determine if participation in a lesson study made any difference in self-directed learning and self-efficacy scores compared to the self directed learning scores and self-efficacy of those participating in a professional leaning community but not in lesson study.

MANOVA results revealed a significant multivariate based on Q33 (Do you participate in a particular type of PLC known as lesson study?), [Pillai's trace = .099, $F(4, 166) = 4.544, p = .002$].

Table 14

Pillai's Trace for Q33

Effect		Value	F	Hypothesis df	Error df	Sig.
Q33	Pillai's Trace	.099	4.544b	4.000	166.000	.002

a. Design: Intercept + Q33, b. Exact statistic

As a follow up to MANOVA, an analysis of variance was conducted on each dependent variable pertaining to Question 33 (Do you participate in a specific type of

PLC known as lesson study?). The dependent variable initiative was significant for participation in lesson study, $F(1,169) = 7.905, p = .006$. The dependent variable control was significant for participation in lesson study, $F(1,169) = 3.997, p = .047$. The dependent variable motivation was significant for participation in lesson study, $F(1, 169) = 14.919, p < .001$. The dependent variable self-efficacy was not significant for participation in lesson study, $F(1,169) = 3.564, p < .499$. Table 15 presents univariate ANOVA results.

Table 15

Univariate ANOVA of Between-Subjects Effects for Q33

Source	Dependent Variable	df	Mean Square	F	Sig.
	initiative	1	84.978	7.905	.006
Q33	control	1	33.111	3.997	.047
	motivation	1	301.531	14.919	.000
	self-efficacy	1	3.564	.460	.499

The univariate ANOVA results indicate that one dependent variable (self-efficacy) which was not significant; however, the dependent variables motivation, initiative and control were significant, indicating that teachers participating in lesson study have higher levels of the attributes motivation, initiative and control than teachers who do not participate in lesson study. Table 16 presents the means and standard deviations for participation in lesson study by initiative, control, motivation, and self efficacy.

Table 16

Means and Standard Deviations for Q33 and initiative, control, motivation, & self-efficacy

	Q33 Do you participate in a specific type of PLC known as Lesson Study?	Mean	Std. Deviation	N
initiative	1 Yes	23.1905	3.26725	105
	2 No	21.7424	3.29713	66
	Total	22.6316	3.34470	171
control	1 Yes	24.0857	2.46168	105
	2 No	23.1818	3.44142	66
	Total	23.7368	2.90350	171
motivation	1 Yes	27.4095	4.30272	105
	2 No	24.6818	4.78832	66
	Total	26.3567	4.67612	171
self-efficacy	1 Yes	25.1905	2.51188	105
	2 No	24.8939	3.17262	66
	Total	25.0760	2.78019	171

CHAPTER V

SUMMARY

Overview

The purpose of this study was to examine the possible relationship between professional development, traditional and job-embedded in the form of a professional learning community and/or lesson study, and teacher self-efficacy and self-directed learning in order to gain a greater understanding of the role professional development plays in teacher identity and efficacy as they relate to adult learning theory. During the qualitative phase of this study, 22 teachers from a single school district participated in face-to-face interviews. During the quantitative phase of the study, the Personal Orientation to Self Direction in Learning Scale (PRO-SDLS) was administered to 171 teachers from two school districts of comparable size and state accountability ranking.

Background to the Study

Educational reforms have traditionally focused on student outcomes but not on equipping teachers to successfully enact those reforms. In fact, teachers have traditionally been left out of reform discussions, including the No Child Left Behind legislation of 2001 and the Common Core State Standards (Strauss, 2010). Professional development is defined as any experience that improves teacher knowledge, informs pedagogy, and contributes to personal and professional growth (Cohen et al., 1993; Guskey, 2002). Yet, much of the professional development offered to teachers often does not address them as professionals or as adult learners begging the question, “How can a learning experience contribute to personal and professional growth if it is not tailored to meet the needs of the person and the professional?”

This research study was conceived out of a perceived need for research in the area of how reflective professional development, in the form of a professional learning community such as lesson study, impacts a teacher's self efficacy, sense of professional identity, and willingness to engage in self-reflection. In seeking to answer the research questions in this study, the researcher utilized a sequential mix methods study in order to examine the relationship between professional development, teacher efficacy, and identity.

While other professions, like law or medicine, may allow practitioners to remain aloof and separate from those they serve, teaching is unique in that it requires practitioners to interact with students and their parents on a personal and meaningful level. Teaching is an organic occupation that is approached, according to Hargreaves (2000), from a market perspective. As in any business, "the bottom line is . . . ever-increasing student scores on standardized tests" (Hall & Hord, 2006, p. 9). In essence, the higher the scores, the higher the perceived quality of the teacher. Ravitch (2010) contradicts this perception: "we value only what tests measure . . . [but] not everything that matters can be quantified" (p. 224). The tendency of society to value teachers based on bottom line test scores has had a negative effective on teacher efficacy and identity. Many research studies examine teacher professional development and student outcomes (Garet et al., 2001; *What Matters Most*, 1996; Yoon, et al., 2007). This research study examined the possible relationship between a specific type of professional development, the professional learning community, and teacher efficacy. It also sought to examine teachers as adult learners and their professional identity as something apart from student outcomes, as much as that is possible, and more as something connected to the

professional development teachers are offered, the way in which they are taught, and their opportunities to collaborate with one another.

Both phases of this research study were conducted during times of the school year that are usually very busy and stressful for teachers. The qualitative interviews were conducted in May, a time of year that is traditionally associated with standardized testing administration and final exams. The quantitative surveys were distributed in early August, when teachers had returned to school but students had not yet started. However, the researcher was concerned that distributing the surveys over the summer would result in a very low response rate as many teachers do not check their school email during the summer, and many do not want to participate in non-required school-related work during the few weeks they have between school terms. Because of the timing for both the qualitative and quantitative phases of this study, participation in the quantitative portion was not as high as the researcher hoped. The high percentage of teachers who were willing to participate in the face-to-face interviews (92%) is thought to be due to the researcher's relationship with those teachers as a colleague.

The researcher's choice to conduct in-person interviews with teachers who participated in lesson study limited the geographical representation of teachers in the qualitative phase of the study. All interview participants were employed by a school district that is the only known district in Mississippi to use the specific type of professional learning community known as lesson study. The researcher chose to limit the quantitative portion of this research to two similar school districts in Mississippi. Since the researcher wanted to examine the possible relationship between participation in professional learning communities and self-efficacy and self-directed learning, choosing

school districts similar in demographic characteristics, including state accountability ratings, seemed practical as a means of comparing the teacher responses to the survey.

Discussion

The results of the qualitative and quantitative data analyses were presented in Chapter IV. A discussion of these results is presented here. Twenty-two teachers from one high school were interviewed for the qualitative phase of this research study. The teachers represented two departments within the high school, the English department and the Career and Technical Education department. Each department was comprised of 12 teachers. Of the 24 teachers in both departments, 22 (92%) of them agreed to be interviewed by the researcher. Of these 22, seventeen (77%) were female and 5 (23%) were male. Among the English teachers, the median number of years of teaching experience was 12.15; among the CTE teachers, the median number of years of teaching experience was 10.3. Thirteen of the 22 teachers had been teaching for more than 10 years on the K-12 level. Five (23%) were National Board Certified Teachers (NBCT). In addition, each department had one new teacher for the 2012-2013 school year (i.e. no prior teaching experience). Sixty percent (60%) of the English teachers had been teaching in this school since 2007, before lesson study, a type of professional learning community, was introduced to the district as a form of job-embedded professional development.

Three qualitative questions were answered as the researcher conducted interviews with 22 teachers, half of whom participated in a professional learning community known as lesson study.

These questions were:

1. What similarities and differences exist between the teachers who participate in the qualitative interviews who participated in traditional professional development and the teachers who participated in the interviews who also participate in lesson study, specifically their perceptions of their efficacy, professional identity and the value of the professional development in which they participate?
2. Among the lesson study group, how will teachers describe themselves as professionals and as adult learners?
3. Among the non-lesson study group, how will teachers describe themselves as professionals and adult learners?

An analysis of the interview data yielded four themes; two themes had been identified from the literature and used to design the interview protocol. These themes are closely related the research on how teachers learn, how they perceive themselves, and how self-efficacy is formed. These themes were:

1. Professional identity is more closely related to perceptions about how teachers believe those outside the classroom view them than how teachers view themselves. These perceptions can be more defining than rank, title or degree
2. Lifelong learning, i.e. self-directed learning, is consistently seen as vitally important to the learner as a professional and as an individual
3. Professional development must be immediately applicable, continuous, and closely related to the teacher's subject matter in order to be perceived as effective

4. Collaboration is effective and desirable if it is done within subject areas, but it requires transparency, an open mind and structure
5. Reflection is a necessary component of effective teaching
6. Self-efficacy, as evidenced by the belief that teachers can and do make a difference in the lives of the students they teach, is a vital component of successful teaching/learning transactions.

Professional identity was closely tied to the perceptions of others. Positive relationships with colleagues, administrators, and students led to a heightened sense of professional identity among those interviewed. While the interview question that specifically pertained to identity generated some confusion as to what the researcher was seeking to know (i.e. participants consistently asked for clarification of this question), examining the responses for this question indicated that teachers saw themselves through the lens of the other, meaning how parents, students, and other adults viewed the teacher affected how the teacher saw himself/herself, although those perceptions did not seem to influence their decision to remain in the classroom. Many of the CTE teachers referred to their professions prior to becoming educators, as well as the stronger sense of professional respect they experienced in those jobs. However, none of the teachers interviewed said anything about this change affecting their decision to remain in the classroom. Kris, the only teacher interviewed who had a Ph.D., shared that it was hard when people implied that teaching was not as important a profession as she should have with that level of academic degree; however, she taught because that is what she wanted to do.

The teachers participating in the interviews all expressed a conscious level of self-directed learning attributes, expressing the importance of learning for the sake of professional competence as well as personal enjoyment. Several of the teachers shared that they were willing to engage in learning about things that were not of particular personal interest to them because they recognized the importance and value of learning for themselves and for their teaching.

Responses to questions regarding professional development and collaboration provided the most interesting and unexpected results in regards to existing literature on the subjects. The literature review chapter of this dissertation identifies multiple research studies that support the current inadequacy of typical professional development (DeMonte, 2013; Gregory & Kuzmich, 2007; Guskey, 2000; Tyack & Cuban, 1995), the tendency of teachers to be taught as children rather than as adults (Ball & Cohen, 1999; Feiman-Nemser, 2012; Imel et al., 2000; Putnam & Borko, 2000), and the value of collaboration among teachers for raising efficacy and positively impacting student achievement (Carroll et al., 2010; Killion & Hirsch, 2012; McLaughlin & Talbert, 1993). The interview responses supported the latter – teachers spoke positively about the value of collaboration, although it did not seem to matter if the collaboration was with teachers within their own school. The CTE teachers primarily collaborated with other teachers who taught the same subject matter, which meant collaborative activities took place mostly through electronic means (e.g. email, phone calls, Skype, Blackboard), although some face-to-face collaboration occurred during workshops and trainings in the summer months.

Because the literature emphasizes the importance of teacher collaboration and the benefits of professional learning communities (Darling-Hammond, 1997; DuFour & Eaker, 1998; Hulley, 2004), the researcher had expected the CTE teachers to express some degree of disappointment over not having the same type of job-embedded professional development that core subject area teachers engaged in (lesson study). This disappointment, however, was not expressed at all. In fact, the CTE teachers indicated that it was more important for them to collaborate with teachers who shared their subject area than it was to collaborate with teachers within their school. Teachers recognizing the value of collaboration and engaging in it coincides with the literature (Chokshi & Fernandez, 2005; Hall & Hord, 2006). The English teachers, who participate in embedded professional development daily, were in agreement (with one exception) that lesson study was the most effective form of professional development they had experienced in their teaching careers. The negative responses regarding traditional professional development focused on what they were being taught not being relevant to their teaching and/or not being something they could easily transfer to their classrooms. Comments that pertained to teachers as adult learners were framed within the context of wanting to be shown how to make their current teaching better rather being told what they were doing wrong and how to fix it, according to a professional development provider. None of them directly addressed professional development not meeting their needs as adult learners. The few negative responses regarding collaboration between the English teachers were in reference to the vulnerability experienced by some as they presented their lessons to the group. One teacher expressed openly that he felt lesson study was a negative experience because of the readiness of some teachers to be critical

without offering possible solutions to the weaknesses they had identified. His response is similar to what the literature reveals about the difficulties that teachers must overcome when engaging in collaborative learning (Hart & Carriere, 2011; McLaughlin & Talbert, 1993).

Reflection was equally important to those interviewed. Responses indicated that self-reflection helped them grow as teachers, and reflecting on student outcomes helped them make better choices for their students, reinforcing Brookfield's (1995) research on the necessity of teachers engaging in self-reflection and in reflection on how their teaching affects their classrooms. Many of the respondents indicated that reflecting was not something they consciously did (i.e. they did not sit down and say, "Now I am going to reflect"). Teachers reflected as part of preparing for the next day or the next school year, looking for what was working well with their students and what could be improved.

The last question of the interview was constructed to give the researcher an overall sense of whether these teachers had high or low self-efficacy. In keeping with what the literature says about teacher efficacy (Bandura, 1981; Gibson & Dembo, 1984), the teachers expressed high levels of efficacy in conjunction with student successes and positive collaborative efforts with colleagues.

The qualitative questions the researcher sought to answer were how 22 faculty members of a high performing school would describe themselves as lifelong learners, as collaborators, as reflectors, and as professionals, whether they participated in lesson study or not. Analyzing the six dominant themes from the interview data indicated that collaboration, whether or not it took place in lesson study, was simply one of the variables that influenced teacher efficacy and identity. Each teacher expressed high levels

of conscious self-directed learning tendencies (i.e. recognizing themselves as life-long learners), a hallmark of adult learning theory, indicating a relationship between self-directed learning and identity, efficacy, and collaboration; however, analysis of the data did not provide enough information to determine which variables were the cause and which were the effect. While the teacher responses all matched the literature on how teachers learn, the importance of collaboration, how teachers define themselves as professionals, and self efficacy, there was no marked difference in the responses of the English teachers, who participate in lesson study, and the CTE teachers, who do not, but who collaborate with teachers in other school districts.

The majority of the teachers participating in the quantitative phase of this study were females. Nearly three-fourths of the survey respondents were women (87%). The number of years of teaching experience ranged from one year to 30-plus years, with the greatest number of participants having taught between 11-15 years (23.3%); 20.9% of participants had taught between 1-5 years; and 20.3% had taught between 6-10 years. Over 60% of the participants had been in education between one and fifteen years (64.4%). Of the 171 teachers who participated in the survey, 66.3% held a Master's degree, and approximately 11% of teachers had earned National Board certification ($n=68$).

According to research, teachers who collaborate regularly with their peers have higher levels of self-efficacy (Henson, 2001). Professional learning communities are a type of professional development that provides teachers the opportunity to collaborate during the school day; they are referred to as job-embedded professional development. Of the survey participants, 78.5% indicated that they participated in a professional learning

community, while 61% of those indicated they participated in lesson study, a specific type of PLC. In addition, 79.3% of participants indicated that they sought out between one and six professional development opportunities on their own during the 2012-2013 school year; these were professional development opportunities that were not provided by their school districts and were not, therefore, *required* of the teachers. Such a high percentage of teachers pursuing their own professional development opportunities suggest that these teachers might be self-directed learners who pursued opportunities because they wanted to learn, or that the professional development offerings of their districts were not sufficient for their learning needs, also suggesting that these teachers were probably highly self-directed learners.

The quantitative phase of the research study was guided by the following two questions:

1. How will the efficacy of teachers who participate in their district's mandated professional development and a professional learning community and/or lesson study compare to the efficacy of teachers who participate only in the professional development provided by their school district as measured by the PRO-SDLS?
2. How will self-directed learning, as measured by motivation, initiative, and control, of teachers who participate in their district's mandated professional development and a professional learning community and/or lesson compare to the self-directed learning of teachers who participate only in the professional development provided by their school district as measured by the PRO-SDLS?

The Personal Responsibility Orientation to Self Direction in Learning Scale (PRO-SDLS) measures an individual's self-directedness in learning using two overarching constructs, the Teaching Learning Transaction (TLT) and Learner Characteristic (LC). These constructs are measured using four subscales: motivation, initiative, control, and self efficacy. The Teaching Learning Transaction component is measured by combining the responses for the subscales of initiative and control. These questions identify self-directed learning in relation to "external factors or characteristics of the teaching learning experience and a learner's willingness to accept personal responsibility accomplishing the learning transaction" (Stockdale & Brockett, 2011, p. 164). The behavior associated with the learning process is measured through questions identifying initiative and control in learning situations. The Learner Characteristic construct is measured by combining the subscales for motivation and self-efficacy. Combined, these questions identify internal characteristics that promote self-direction in learning, namely attitudes and beliefs that indicate an individual takes responsibility for his/her own learning.

The researcher modified the existing 25-question PRO-SDLS, with the authors' permission, by rewording the questions so that they applied specifically to teachers (rather than to adult students) and by adding 10 questions that gathered demographic information about the participants. Based on the two research questions which guided the quantitative phase of this study, three research hypotheses were developed. The research hypotheses stated that high self-efficacy scores and self-directed learning scores were the result of participation in a professional learning community and that participation in lesson study would result in higher self-efficacy and higher self-directed learning scores

than participation in a professional learning community. The hypotheses were answered by running T-tests and a one-way MANOVA.

The first hypothesis stated that teachers participating in some form of a professional learning community would have higher self efficacy scores than teachers who did not participate in a PLC. Question 32 on the PRO-SDLS asked a YES/NO question: Do you participate in a Professional Learning Community? There were 171 responses to this question; 135 answered YES (79%) and 36 answered NO (21%). A t-test was run using the dependent variable self-efficacy and the independent variable Q32. The t-test showed that there was not a significant relationship between self-efficacy and participation in a professional learning community. The Means for both independent variables (Q32 YES/NO) were almost identical: YES (25.0519) and NO (25.1667).

These results are not in alignment with the current literature on the powerful effect participation in a PLC can have on a teacher's sense of efficacy. However, several factors may have played a role in this result. All of the participating teachers were employees of high performing school districts. Both districts had earned an A rating from the Mississippi Department of Education. While individual efficacy relates to a teacher's beliefs about his or her individual ability to effectively teach all students (Bandura, 1994), collective efficacy is a teacher's belief that the entire school faculty is able to influence student achievement for the good (Goddard et al., 2000). A teacher may experience high self-efficacy as a result of being part of a very successful school, whether or not that teacher has any direct connection with standardized test scores. While high levels of collaboration (such as a professional learning community) are linked to high self-efficacy (Chester & Beaudin, 1996), teachers may have high self-efficacy by virtue

of association with a high performing school district. In addition, analysis of the qualitative data suggests that both the English and the CTE teachers (lesson study and non-lesson study) exhibited high levels of efficacy, suggesting that collaboration itself, rather than the type of collaboration, is the key to high efficacy. There were no questions on the survey that asked about collaboration; only questions regarding participation in a professional learning community and participation in lesson study. It is unknown whether any of the 36 respondents who answered NO to question 32 were involved in other forms of collaboration.

The second hypothesis stated that teachers participating in some form of a professional learning community would have higher self-directed learning scores, as measured by motivation, initiative, and control, than did teachers who did not participate in a PLC. A one-way MANOVA was run to determine if any significant relationship existed between the independent variable (Q 32) and three dependent variables: motivation, initiative, and control. The results of the MANOVA indicated a significant relationship between the variables; therefore, a one-way analysis of variance was run. Results from the ANOVA showed a significant relationship between motivation and participation in a professional learning community. There was no significance found for initiative and control and participation in a PLC.

The third hypothesis stated that teachers who participate in lesson study would have higher self efficacy and self-directed learning scores than teachers who participate in a different type of professional learning community. A one-way MANOVA was run to determine if any significant relationship existed between the independent variable (Q 33) and four dependent variables: motivation, initiative, self efficacy, and control. The results

of the MANOVA indicated a significant relationship between the variables; therefore a one-way analysis of variance was run. Results from the ANOVA showed a significant relationship between motivation, initiative, and control and participation in lesson study. There was no significance indicated for self-efficacy, which is a finding in contradiction with the literature on teacher self-efficacy. However, this lack of significance may also be related to collective efficacy.

Directions for Future Research

While the results of this study are not conclusive, there are several things that can be assumed from the research. Teacher-efficacy is a complex construct that can not necessarily be effectively measured using the PRO-SDLS. Because the researcher sought to understand the possible relationship between adult learning, professional development and self-efficacy, she chose the PRO-SDLS because it measured self-efficacy and self-directed learning within one instrument. In order to measure adult learning and professional development, she added two questions to the instrument. These questions may not have been sufficient to measure adult learning in a professional development setting. In addition, self-efficacy was measured by six questions on the PRO-SDLS; since other valid and reliable measures of self-efficacy are available, which use 12 or 24 questions to measure self-efficacy, it may be that the PRO-SDLS is not the most appropriate instrument with which to measure teacher efficacy. (Tschannen-Moran & Woolfolk-Hoy, 2001b).

The qualitative portion of the research study utilized an interview protocol designed to correlate with current literature on teacher identity, collaboration, and life-long learning. Several of the questions were meant to elicit responses that provided a

snapshot of teachers as learners and as professionals. However, because these questions were direct (i.e., How would you describe yourself as a professional? How would you describe yourself as a lifelong learner?) rather than implied, teachers needed clarification on what the researcher was specifically asking. Additionally, because the questions were asked directly, the researcher does not know what kinds of references the teachers might have made to themselves as professionals and lifelong learners in the context of the other interview questions. It may be that answers more reflective of how teachers honestly saw themselves as professionals and learners would have emerged if the interviewer had not asked the teachers to describe themselves as such.

The interview questions did not address lesson study directly, and this omission was a weakness in the interview protocol. The researcher started with the assumption that CTE teachers would indicate some type of desire to participate in lesson study, given the emphasis placed on lesson study by school district A and the emphasis in the literature on the value of professional learning communities (Corcoran & Silander, 2009; Wei et al., 2010; Wilmore, 2007). While the English teachers each talked about lesson study in response to the interview questions about professional development, the CTE teachers did not mention lesson study at all; therefore, the researcher was unable to determine if lesson study was something the CTE teachers valued or desired to take part in themselves.

The research study revealed that collaboration is an important factor in promoting teacher-efficacy, but that collaboration may take many forms, including but not limited to that of a professional learning community. Lesson study in the United States lacks a strong research base to support it as an effective professional development method. It is

supported by a strong theoretical foundation, but Lewis (2009) called for vigorous research to support it methodologically. This research study sought to add to the body of literature that supports the use of professional learning communities and lesson study with teachers as adult learners.

In keeping with the literature, the researcher found through the qualitative data analysis that professional development needed to be relevant and practical; the interviewed teachers in this study were adamant that professional development that had no relevance or transferability to their classrooms was a waste of time. Collaboration needed to occur with other teachers who could provide those kinds of practical, transferable skills.

The results of this study did not clearly indicate that a professional learning community like lesson study had any impact in increasing teacher efficacy or formation of a professional identity. However, these results are not supported by the literature on teacher efficacy and professional learning communities. Most research on lesson study is descriptive rather than rigorous (Lewis et al., 2006). One way to examine the value of embedded professional development is to measure the teacher qualities that are associated with successful classrooms for those teachers who participate in a professional learning community such as lesson study. Future studies that examine how participation in a professional learning community like lesson study may affect teachers in low-performing schools in terms of efficacy and professional identity would be useful additions to the literature. In addition, research using a larger sample size might yield different results. The current study's *n* of 171 is a relatively small sample size, and the population represented two similar school districts. Future studies examining a more

diverse population would also be useful in determining how participation in a professional learning community (such as lesson study) may affect the identity and efficacy of teachers in other states.

Because the researcher did not ask questions relating to collaboration outside of a professional learning community on the survey instrument, the results of the *t*-test and one-way MANOVA that indicated there was not a significant relationship between participation in a professional learning community and self-efficacy may not have been accurate. These results were in direct contradiction with current literature but may be a result of poor questions, not indicative that no relationship exists. Because the CTE teachers indicated in the interviews that collaboration did not have to occur within a single school to be effective, teachers who answered NO to Question 32 (Do you participate in a professional learning community?) on the PRO-SDLS may have answered yes had they been asked a question regarding collaborating with teachers outside of a structured professional learning community. Because the researcher did not ask this question, there is no way to know if teachers who exhibited high levels of self efficacy but did not participate in a professional learning community were collaborating with other teachers in other ways.

Collective efficacy refers to teacher efficacy that is the result of teachers working with a faculty whom they believe are able to positively influence student achievement (Goddard et al., 2000) and is a significant predictor of student achievement, regardless of other variables (Goddard et al., 2000; Goddard et al., 2004; Hoy et al., 2002). Both of the school districts in this research study were rated as A districts by the Mississippi Department of Education, a rating indicative of high performing and successful schools

within each school district. Teachers who responded to the online survey may have had a high level of collective efficacy based on their schools' success; therefore, the high levels of self-efficacy indicated may have actually been reflective of collective efficacy, regardless of teachers' participation in a professional learning community. Differentiating between multiple types of teacher collaboration and variables that increase self-efficacy would be useful in future research studies as these variables are multi-faceted and complex, and therefore, possibly not accurately measured with the survey instrument as it was used in this study.

The authors of the PRO-SDLS instrument state that future research is needed to design or modify instruments that measure self-directed learning for specific settings and populations (Stockdale & Brockett, 2011). The researcher modified the PRO-SDLS to make it relevant to K-12 teachers, but more research is needed to explore effective ways to use the instrument in order to measure self-directed learning in K-12 teachers.

APPENDIX A
INTERVIEW PROTOCOL

1. How many years have you been teaching on the K-12 level?
2. How many of these years have been at Petal High School?
3. Are you a National Board Certified Teacher?
4. If not, have you considered (or are you in the process) of becoming a NBCT?
5. What subject do you teach?
6. Have you ever taught any other subjects? What were they?
7. a. How would you describe yourself as a teacher?
 - 7b. as a professional?
 - 7c. as a lifelong learner?
8. What types of learning do you most enjoy?
9. What specific types of professional development do you find most useful and applicable to your teaching practice?
10. What do you see as the ultimate purpose of professional development for teachers?
 - 10a. professional identity/growth?
 - 10b. student outcomes?
 - 10c. a combination of both?
11. What role, in general, does collaborating with other teachers play in improving teaching?
12. Why do you think it is important to collaborate with other teachers?
13. How often do you collaborate with other teachers?
14. What kinds of activities do you collaborate on?

15. What role do you believe reflection plays in contributing to effective teaching?
16. What kinds of experiences cause you to reflect on your teaching?
17. What kinds of experiences have caused you to feel isolated as a teacher?
18. What have you done to overcome feeling isolated?
19. In what ways have you felt supported as a professional by your administration?
20. In what ways have your colleagues supported your efforts to improve your teaching practices?
21. What classroom experiences or student outcomes have had the greatest impact on your personal sense of accomplishment as a professional educator?

APPENDIX B

THE UNIVERSITY OF SOUTHERN MISSISSIPPI

AUTHORIZATION TO PARTICIPATE IN RESEARCH PROJECT

Consent is hereby given to participate in the study titled: Professional Development and Its Affect on Teacher Self-Efficacy and Professional Identity

Purpose: The purpose of this study is to explore the affects of professional development, both embedded and traditional, on the self-efficacy and professional identity of high school teachers. This research may result in conference presentations and journal articles.

Description of the Study: In this study you will be asked to participate in a personal interview with the researcher at a location of your choice that will be tape-recorded and later transcribed. The interview will be 45 to 90 minutes in duration. Any information you provide will be kept confidential and your identity will not be revealed, by name or description. You may be contacted a second time so that the researcher can seek your opinion about the accuracy of her understanding of information that you provide.

Benefits: While there may be no immediate direct benefits to you for participating in this study, it is hoped that a better understanding of the benefits of embedded professional development on teacher self-efficacy and professional identity will be of value to teachers and to the school district as they plan for future development opportunities and allocation of resources.

Risks: The research poses no foreseeable risks to you. Please be assured that personal information about you will not be revealed. Please also be assured that although the researcher is a participant researcher, you may speak freely about your experiences without fear of negative consequences.

Confidentiality: All information shared with the researcher will be kept private and confidential. Tape-recorded interview tapes and transcribed interviews will be maintained in a locked drawer at the researcher's home. Only the researcher will have access to the data. The tape-recordings will be destroyed after a period of one year. The interview transcripts may be kept up to two years to facilitate data analysis. They will then be destroyed. No identifying information will be recorded on the transcripts; only pseudonyms will be used to identify research participants.

Participant's Assurance: Whereas no assurance can be made concerning results that may be obtained (since results from investigational studies cannot be predicted) the researcher will take every precaution consistent with the best scientific practice. Participation in this project is completely voluntary, and participants may withdraw from this study at any

time without penalty, prejudice, or loss of benefits. Questions concerning the research should be directed to Deidra M. Gammill at 601-606-9191. This project and this consent form have been reviewed by the Institutional Review Board, which ensures that research projects involving human subjects follow federal regulations. Any questions or concerns about rights as a research participant should be directed to the Chair of the Institutional Review Board, The University of Southern Mississippi, 118 College Drive #5147, Hattiesburg, MS 39406-0001, (601) 266-6820. A copy of this form will be given to the participant.

Signatures: In conformance with the federal guidelines, the signature of the participant must appear on all written consent documents. The University also requires that the date and the signature of the person explaining the study to the subject appear on the consent form.

Signature of the Research Participant

Date

Signature of the Person Explaining the Study

Date

APPENDIX C

PERSONAL RESPONSIBILITY ORIENTATION TO SELF DIRECTION IN
LEARNING SCALE

Personal Responsibility Orientation to Self Direction in Learning Scale

Please mark only one answer choice for the following questions.	Strongly Disagree	Disagree	Sometimes Agree	Agree	Strongly Agree
1. I am confident in my ability to consistently motivate myself.					
2. I frequently do extra study of a topic after I participate in work-related professional development just because I am interested.					
3. I don't see any connection between the material I learn in work-related professional development and my personal goals and interests.					
4. If I am not doing as well as I would like in teaching my subject matter, I always independently make the changes necessary for improvement.					
5. I always effectively take responsibility for my own learning.					
6. I often have a problem motivating myself to learn.					
7. I am very confident in my ability to independently prioritize my learning goals.					
8. I participate in work-related professional development because I WANT to, not because I HAVE to.					
9. I would rather take the initiative to learn new things on my own rather than wait for a work-related professional development opportunity to foster new learning.					
10. I often use materials I have found on my own to help me in creating lessons or classroom activities.					
11. For most of my work-related professional development, I really don't know why I am required to complete the material or participate in the activity.					
12. I am very convinced I have the ability to take personal control of my learning.					
13. I usually ignore the material presented in work-related professional development if my administrator does not require that I submit any type of evidence of my learning of the new material.					
14. Most of the learning I do in work-related professional development is personally enjoyable or seems relevant to the work I do in my classroom.					

Please mark only one answer choice for the following questions.	Strongly Disagree	Disagree	Sometimes Agree	Agree	Strongly Agree
15. Even after a work-related professional development opportunity is over, I continue to spend time learning about the topic.					
16. The primary reason I participate in work-related professional development is to obtain a CEU, a certification, or to fulfill a job-related obligation that is required of me.					
17. I often collect additional information about interesting topics even after a work-related professional development opportunity has ended.					
18. The main reason I participate in work-related professional development is to avoid feeling guilty or getting a poor evaluation from my administrator.					
19. I am very successful at prioritizing my learning goals.					
20. Most of the activities I complete for required work-related professional development are NOT really personally useful or interesting.					
21. I am really uncertain about my capacity to take primary responsibility for my learning.					
22. I am unsure about my ability to independently find needed outside materials for my professional learning.					
23. I always effectively organize my professional learning time.					
24. I don't have much confidence in my ability to independently carry out my own professional learning.					
25. I always rely on the facilitator to tell me what I need to do in a work-related professional development in order to successfully use the new material.					

26. What is your gender?

male
 female

27. What grade level do you teach?

- K-2
- 3-4
- 5-6
- 7-8
- 9-12

28. What subject matter do you teach? (check as many as apply)

- English/Language Arts
- Science
- Math
- History/Social Studies
- Career & Technical
- STEM/Computer/ICT
- Foreign Language
- Music/Drama/Art/Band
- Physical Education/Coach
- Other

29. How many years (not including 2013-2014) have you taught on the K-12 level?

- 1-5
- 6-10
- 11-15
- 16-20
- 21-25
- 26-29
- 30 or more

30. What is your highest level of education completed?

- Bachelor's
- Master's
- Specialist
- Doctorate

31. Are you a National Board Certified Teacher?

yes

no

32. Do you participate in a Professional Learning Community (PLC)?

yes

no

33. Do you participate in a specific type of PLC known as Lesson Study?

yes

no

34. How many professional development opportunities (excluding participation in a PLC or Lesson Study) did your school district offer you during the past school year (2012-2013)?

1-3

4-6

7-10

None

35. How many professional development opportunities did you pursue on your own during the past school year (2012-2013)?

1-3

4-6

7-10

None

APPENDIX D

PERMISSION TO MODIFY PRO-SDLS INSTRUMENT

Deidra Gammill< deidra.gammill@petalschools.com>

Mon, Jun 3, 2013
at 12:09 PM

To: brockett@utk.edu, sstockda@kennesaw.edu, Lilian H Hill <lilian.hill@usm.edu>

Dear Dr. Brockett and Dr. Stockdale,

I am a doctoral student at the University of Southern Mississippi in the Adult Education program; Dr. Lilian Hill is my faculty advisor. I would like to use a modified version of your PRO-SDLS instrument in my dissertation research (*Lesson Study as Professional Development: Teacher Identity and Self Efficacy*). I have attached a typed copy of the instrument with my modifications for your review. The 5-point scale (Strongly Disagree - Strongly Agree) will remain the same.

Thank you so much.

Sincerely,

Deidra Gammill

Deidra M. Gammill, NBCT

Petal High School

[601-583-3538 ext 4170](tel:601-583-3538)

 **A Learning Experience Scale (PRO-SDLS) modified.doc**
37K

Susan Stockdale
<sstockda@kennesaw.edu>

Jun 16

to me

Hi Deidra,
Looks good. Good luck. Let us know your results.
Susan

Susan Stockdale, Ph.D.
Associate Dean of Graduate Studies
Associate Professor of Educational Psychology and Middle Grades Education
Kennesaw State University
Email: sstockda@kennesaw.edu
Phone: [678-797-2060](tel:678-797-2060)

APPENDIX E

THE UNIVERSITY OF SOUTHERN MISSISSIPPI

AUTHORIZATION TO PARTICIPATE IN RESEARCH PROJECT
Lesson Study as Professional Development: Teacher Identity and Self Efficacy

Dear Teacher,

I am a graduate student Adult Education in the University of Southern Mississippi's department of Educational Studies and Research in the College of Education. I am conducting a research project in conjunction with my dissertation. The goal of this project is to better understand the relationship between teachers' participation in professional development and their self-efficacy beliefs and perception of their professional identities. You have been asked to participate in this research because you are a teacher in south Mississippi.

This study will entail your completion of an electronic survey. The 35 question survey is expected to take approximately 15-20 minutes to complete. Completion of the survey indicates your willingness to participate in this project and that you are at least age eighteen.

Participation in this project is completely voluntary, and you may withdraw from this study at any time. The research results may be published, but your real name and the name of your school district will not be used. This electronic survey contains no identifying information; however, it is possible, with internet communications, that through intent or accident someone other than the intended recipient may see your response. Surveys will be deleted after a period of 12 months. This research poses no foreseeable risks to you.

Although participation may not benefit you directly, I believe that the information obtained from this study will be of value to teachers and administrators of school districts in our area as they plan for future professional development opportunities and allocation of resources. In addition, this research may prove useful in showing school districts the potential value of incorporating embedded professional development for their faculty.

Any questions you have may be addressed to me at deidra.gammill@eagles.usm.edu, or 601-606-9191, or to Dr. Lilian Hill, at lilian.hill@usm.edu or 601-266-4622. This project and this consent form have been reviewed by the Institutional Review Board, which ensures that research projects involving human subjects follow federal regulations. Any questions or concerns about your rights as a research participant should be directed to the Chair of the Institutional Review Board, the University of Southern Mississippi, 118 College Drive #5147, Hattiesburg, MS 39406-0001, (601) 266-6820.

Deidra M. Gammill

APPENDIX F
IRB APPROVAL OF INTERVIEW PROTOCOL



INSTITUTIONAL REVIEW BOARD
118 College Drive #5147 | Hattiesburg, MS 39406-0001
Phone: 601.266.6820 | Fax: 601.266.4377 | www.usm.edu/irb

NOTICE OF COMMITTEE ACTION

The project has been reviewed by The University of Southern Mississippi Institutional Review Board in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services (45 CFR Part 46), and university guidelines to ensure adherence to the following criteria:

- The risks to subjects are minimized.
- The risks to subjects are reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered regarding risks to subjects must be reported immediately, but not later than 10 days following the event. This should be reported to the IRB Office via the "Adverse Effect Report Form".
- If approved, the maximum period of approval is limited to twelve months. Projects that exceed this period must submit an application for renewal or continuation.

PROTOCOL NUMBER: **12032101**
PROJECT TITLE: **Professional Development and Its Affect on
Teacher Self-Efficacy and Professional Identity**
PROJECT TYPE: **New Project**
RESEARCHER/S: **Deidra M. Gammill**
COLLEGE/DIVISION: **College of Education & Psychology**
DEPARTMENT: **Adult Education**
FUNDING AGENCY: **N/A**
IRB COMMITTEE ACTION: **Expedited Review Approval**
PERIOD OF PROJECT APPROVAL: **04/17/2012 to 04/16/2013**

Lawrence A. Hosman, Ph.D.
Institutional Review Board Chair

APPENDIX G
DISTRICT A - LETTER OF APPROVAL FOR INTERVIEW

SCHOOL DISTRICT
www. com

DISTRICT STAFF

- Superintendent
- Assistant Superintendent
- Chief Financial Officer
- Director of Center for Families and Children
- Director of Maintenance
- Director of Child Nutrition
- Police Chief
- Transportation Administrator
- Director of Technology
- Director of Student Assessment and Administrative Support
- Director of Human Resources and Federal Programs
- Athletic Coordinator and Head Football Coach
- Director of Special Services

ADMINISTRATIVE OFFICES

Phone:
Fax:

March 7, 2012

Ms. Deidra Gammill

Dear Ms. Gammill,

Please accept this letter as permission to contact teachers at High School. I understand this survey will be used in partial fulfillment of your Doctor of Philosophy in Adult Education at the University of Southern Mississippi.

I will contact our principals at High School and let them know that you will be in touch with them in the near future. I also understand that the participation is voluntarily and that any surveys you obtain will be held in confidence.

I congratulate you on your endeavors. If we can be of further assistance, please let us know.

Sincerely,

[Redacted Signature]

Superintendent of Schools

[Redacted Box]

APPENDIX H
IRB APPROVAL OF SURVEY



THE UNIVERSITY OF
SOUTHERN MISSISSIPPI

INSTITUTIONAL REVIEW BOARD
118 College Drive #5147 | Hattiesburg, MS 39406-0001
Phone: 601.266.6820 | Fax: 601.266.4377 | www.usm.edu/irb

NOTICE OF COMMITTEE ACTION

The project has been reviewed by The University of Southern Mississippi Institutional Review Board in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services (45 CFR Part 46), and university guidelines to ensure adherence to the following criteria:

- The risks to subjects are minimized.
- The risks to subjects are reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered regarding risks to subjects must be reported immediately, but not later than 10 days following the event. This should be reported to the IRB Office via the "Adverse Effect Report Form".
- If approved, the maximum period of approval is limited to twelve months.
Projects that exceed this period must submit an application for renewal or continuation.

PROTOCOL NUMBER: 13071001

PROJECT TITLE: Lesson Study as Professional Development: Teacher Identity and Self Efficacy

PROJECT TYPE: Dissertation

RESEARCHER(S): Gammill Deidra

COLLEGE/DIVISION: College of Education and Psychology

DEPARTMENT: Education Studies and Research

FUNDING AGENCY/SPONSOR: N/A

IRB COMMITTEE ACTION: Expedited Review Approval

PERIOD OF APPROVAL: 07/15/2013 to 07/14/2014

Lawrence A. Hosman, Ph.D.
Institutional Review Board

APPENDIX I
DISTRICT A - LETTER OF APPROVAL FOR SURVEY

SCHOOL DISTRICT
www. [redacted] .com

DISTRICT STAFF

- [redacted]
Superintendent
- [redacted]
Assistant Superintendent
- [redacted]
Assistant Superintendent
- [redacted]
Chief Financial Officer
- [redacted]
Director of Center for Families and Children
- [redacted]
Director of Maintenance
- [redacted]
Director of Child Nutrition
- [redacted]
Police Chief
- [redacted]
Transportation Administrator
- [redacted]
Director of Technology
- [redacted]
Director of Human Resources and Federal Programs
- [redacted]
Athletic Director and Head Football Coach
- [redacted]
Director of Special Services

April 29, 2013

Ms. Deidra Gammill
[redacted]

Dear Deidra:

Please accept this letter as permission to contact all the teachers in the [redacted] School District. I understand that this survey will be used in partial fulfillment of a Doctor of Education Degree in Education Leadership at the University of Southern Mississippi.

I will contact our principals and let them know that you will be in touch with them in the near future. I also understand that participation in this survey is voluntary and that any surveys you obtain will be held in confidence.

In congratulate you on your endeavors. If we can be of any further assistance, please let us know.

Sincerely,

[redacted signature]

Superintendent of Schools

ADMINISTRATIVE OFFICES

- [redacted]
- [redacted]
- [redacted]
- Phone: [redacted]
- Fax: [redacted]

[redacted]

APPENDIX J
DISTRICT B - LETTER OF APPROVAL FOR SURVEY

[Redacted] [Redacted] School District [Redacted]
[Redacted]
[Redacted]
[Redacted]
Phone [Redacted]
[Redacted] Superintendent

Deidra Gammill has permission to collect data from the [Redacted] School District as outlined in her IRB application. I understand that the purpose of her study is examine the perceptions of professional identity and self efficacy of public school teachers, and that her participants will include teachers from all grade levels employed with the [Redacted] School District.

[Redacted]

Assistant Superintendent
Organizational Support

[Redacted]



Academics - Arts - Athletics

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