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MIDDLE SCHOOL TEACHERS' PERCEPTIONS OF PROFESSIONAL DEVELOPMENT FOR BLENDED LEARNING IMPLEMENTATION

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Middle School Teachers' Perceptions of Professional

Development for Blended Learning Implementation

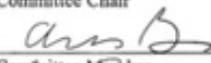
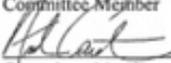
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**MIDDLE SCHOOL TEACHERS' PERCEPTIONS OF PROFESSIONAL
DEVELOPMENT FOR BLENDED LEARNING IMPLEMENTATION**

Dissertation

**Submitted in partial fulfillment
of the requirements for the degree of Doctor of Education
in the Carter and Moyers School of Education
at Lincoln Memorial University**

by

Jessica Wear

February 2021

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Dedication

For Ryan & Avery

I would like to dedicate this study to my family, who gave me the encouragement I needed to accomplish such a tremendous undertaking. Their love and support has guided me through the most difficult of times. My hope is that being with me through this process has allowed my daughters to see that anything is possible and that they should always do what it takes to make their goals and dreams a reality. This journey has reminded me that an education is a privilege, and essential, so that we may always continue to influence the lives of those we encounter.

Acknowledgments

I would like to acknowledge the professors from my courses at Lincoln Memorial University, who provided me with the knowledge to bring a dissertation study from initial stages through completion as well as preparing me for a future in instructional leadership. I would also like to express my sincere thanks and appreciation to Dr. Cherie Gaines and Dr. Andrew Courtner for their unwavering support and guidance. Finally, I would like to acknowledge Dr. Joshua Tipton, my dissertation Chairperson, for spending many hours providing me with support and reviewing my work while continually guiding me through this process. His encouragement and advice has remained true.

Abstract

As technology use in the classroom became more prevalent, so did the questions of how to effectively integrate technology into instructional practice. From this rise in questions about how to effectively integrate technology, the term *blended learning* emerged. Blended learning serves as a description of practices for educators to effectively implement and integrate technology in classrooms. Through an adult learning framework, I used a qualitative interpretive research design to examine middle school teachers' perceptions of professional development for implementing blended learning. I sampled 32 middle school teachers who completed questionnaires, and I interviewed three teachers based on their responses to the questionnaire. The data revealed teachers' perceptions of professional development offered for implementing blended learning varied depending on their own conceptual understanding of blended learning. There was a misidentification of what constitutes blended learning among the participants, which was found to alter their perceptions of the professional development opportunities offered at the district and/or school level. Additionally, the data revealed teachers' perceptions of school and/or district professional development on blended learning did influence the classroom implementation of blended learning strategies and the need for more accessible and more personalized opportunities for professional development.

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Chapter I: Introduction

There has often been a misconception that simply using technology in classrooms indicated the classrooms were 21st century classrooms (Tucker, 2012). The 21st century classroom was transformed to be student-centered with focus not on the gadgets but rather the purposeful integration of technology (Tucker, 2012). “Over the last ten years, the federal government in the United States spent over 18 billion dollars wiring schools and enabling students to connect to the Web and other internet networks” (Lee & Spires, 2009, p. 64). Ninety-five percent of public-school classrooms in the United States had internet access by 2005, and by 2015-2016 more state standardized tests for elementary and middle grades were administered through technology rather than the traditional paper and pencil method as public schools provided a computer for every five students (Herold, 2016; Lee & Spires, 2009). As of 2016, public schools in the United States spent more than 3 billion dollars on digital content (Herold, 2016). The high amount of connectivity within schools resulted in a changed focus toward the quality of use of these connections in classroom instruction (Lee & Spires, 2009).

As online learning swept across the United States, K-12 schools looked for ways to utilize technology that offered a more personalized approach to teaching and learning (Sorbie, 2015). The educational opportunities that brick-and-mortar schools provided for students via the access to online learning and availability of education technology had never before existed (Horn & Staker, 2011).

Online learning has the potential to be a disruptive force that will transform the factory-like, monolithic structure that has dominated America’s schools into a new model that is student-centric, highly

personalized for each learner, and more productive, as it delivers dramatically better results at the same or lower cost. (Horn & Staker, 2011, p. 2)

Online learning was brought into the brick-and-mortar schools so more students would have access to learn in part through online platforms while under the supervision of the teacher and in part to learn in the traditional format, with direct instruction delivered by the teacher (Horn & Staker, 2011). Blended learning allowed teachers the option of combining instruction via online learning content with conventional teacher-led instruction, giving students more learning opportunities, which led to a rise in academic achievement (Fazal & Bryant, 2019).

According to researchers, technology advancements allowed more schools and districts to integrate blended learning (Hesse, 2017; Sorbie, 2015). Primary and secondary schools in the United States more frequently integrated online learning with traditional educational environments; for instance, the United States saw a rise of K–12 students participating in some form of online/blended course education from approximately 45,000 in 2000 to more than four million students in 2010 with 5 million K-12 students engaged in blended learning courses in 2016 (Picciano et al., 2012; Staker, 2011). As of 2019, 65% of teachers reported using digital learning tools to teach every day, and 96% of teachers reported their schools used digital technologies to personalize learning (Arnett, 2020). In addition, many institutions of higher education adopted this technological revolution faster than primary and secondary institutions (Allen & Seaman, 2010; Picciano et al., 2012; Smith, 2014; Staker, 2011). Subsequently, this created a

variance in post-secondary students' familiarity to technology due to lack of exposure during their primary and secondary years.

While the majority of blended learning programs were found in higher education institutions, some K-12 public schools were structured to specifically utilize technology through a blended learning school model (Agostini, 2013; Allen & Seaman, 2010; Smith, 2014). Blended learning represented a change in how educators approach their instruction and students (Sahni, 2019). Hrastinki (2019) noted the quality concept of blended learning is emphasized by thoughtfully integrating benefits of face-to-face and online learning. Acree et al. (2017) found a blended learning approach included educational and attitudinal shifts that led to substantial student personalization and more student voice and agency. Watson (2008) explained blended learning had the ability to combine the best of the teacher with the best of educational technology, transforming how educators approach their instruction and their students.

In schools, course content was traditionally presented to every student at the same time, but with the inclusion of technology, the content delivered was increasingly adaptive and could be adjusted in real time based on a student's understanding (Fazal & Bryant, 2019). Broader implementation of blended learning demanded school administrators and teachers worked to change perspectives and classroom practice (U.S. Department of Education, USDOE, 2016, 2017; Watson, 2008). School and district leaders cited benefits such as desired personalization, desired control costs, and access to a broad range of learning opportunities as reasons for blended learning implementation (Horn & Staker, 2015). As a result, this transition to blended learning required districts and

schools to offer effective, timely, and relevant professional development to new and veteran teachers (Harris, 2017; Kulpa, 2015; Parks et al., 2016; Watson 2008). Additionally, the USDOE's NETP recommended teacher education courses "provide pre-service and in-service educators with professional learning experiences powered by technology to increase their digital literacy and enable them to create compelling learning activities that improve learning and teaching, assessment, and instructional practices" (USDOE, 2016, p. 37). Researchers also indicated professional development opportunities on blended learning had not met teachers needs for effectively implementing blended learning, so preparing pre-service teachers and in-service opportunities to better meet the needs of teachers was necessary (Kulpa, 2015; USDOE, 2016).

The purpose, impact, and influence that professional development had on teacher development has been a complex topic of discussion, and there was a need to dig deeper in understanding what teachers experienced during school-based and district-based professional development including how they perceived those experiences (Darling-Hammond et al., 2017; Kennedy, 2017; Ravhuhul et al., 2015). In addition, professional development on blended learning determined the success or failure of the teacher's effective implementation of blended learning in the classroom (Harris, 2017; Kulpa, 2015; Moore et al., 2017). Teacher confidence and self-efficacy concerning the implementation of blended learning increased as a result of access to professional development experiences (Owsten et al., 2008a). I focused on middle school teachers and studied teacher perceptions of district and/or school professional development opportunities offered for implementing blended learning.

Statement of the Problem

Students of today have become digital natives; therefore, assessing districts professional development based upon technological training is necessary and appropriate (Lee & Spires, 2009). According to the USDOE (2016), when students entered the workforce, they were expected to understand technology at a higher level than any previous generation. The rate of technological innovation over the last decade contributed to school districts' and teachers' attempts to implement blended learning in their classrooms (Güzer & Caner, 2014).

Blended learning was an educational strategy that supported student learning, provided students with the benefit of access to the technological tools available to teachers, and has allowed teachers to differentiate their classroom instruction in ways not previously possible (Correia, 2016; Fazal & Bryant, 2019; Winter, 2018). Blended learning benefited students by allowing for flexibility, a sense of community, the effective use of resources, student satisfaction, and positively affected student achievement scores (Ortiz-Brewster, 2016; Poon, 2013). The flexibility integrated with blended learning permitted teachers to appropriately differentiate instruction to meet the learning styles of students (Longo, 2016). The blended learning approach included educational and attitude shifts that led to substantial student personalization and more student voice and agency, and when utilized as a tool for instruction in middle school, blended learning aligned with research-based strategies (Acree et al., 2017; Longo, 2016).

As more schools and teachers implemented blended learning models, further examination of the influence of blended learning on classroom practice was warranted (Hesse, 2017; Jones, 2019; Murphy et al., 2014). Appropriate

supports for teachers concerning the implementation of blended learning were not implemented consistently and teachers needed guidance with technical assistance, course development, and sufficient time management of their learning curve (Garrison & Kanuka, 2004; Harris, 2017; Watson, 2008). Knowledge of technology was a required skill for teachers and some common challenges teachers faced when integrating technology into the classroom was their lack of knowledge concerning how to appropriately use technology tools and their self-confidence in technology integration, which are both core components of blended learning (Hartsell et al., 2010; Kulpa, 2015). When teachers lacked the knowledge concerning the use of technology tools and/or the self-efficacy to implement blended learning, they often did not use the technology and no blended learning occurred (USDOE, 2016). Professional development opportunities, support, and incentives for teachers might have aided in offsetting the uneasiness of teaching a blended learning course due to unfamiliarity with the technology and the arrangement of a blended classroom (Kuo et al., 2014).

Classroom implementation of blended learning was hindered by teacher and administrator misconceptions and lack of practical knowledge (Correia, 2016; Poon, 2013). Professional development offered on blended learning was transformative for teachers' attitudes and thoughts on integrating technology in the classroom (Xie et al., 2017). Teachers needed to be able to identify the difference between technology adoption for the classroom and the pedagogical practice of blended learning, and this is where sound, effective professional development on the pedagogy of blended learning was needed (Parks et al.,

2016). Effective technology integration was supported by sound educational theory (Winter, 2018).

Middle school teachers especially needed to guide their students in traversing these new technologies and required pedagogical understanding for using technology in their classroom (Lee & Spires, 2009). Technology was shown to be a motivator for middle grade students (DiCicco et al., 2016). Spires et al. (2008) found middle school students were frustrated because they were not allowed to use the same kind of technology in school they used out of school and did not think their teachers knew enough about technology to provide them with the skills they would need later in life in their future careers. Given the lack of research on middle school teachers and their perceptions of blended learning, the purpose of this study was to investigate middle school teacher perceptions of professional development opportunities offered for implementing blended learning and to what extent, if any, these perceptions influenced their own implementation of blended learning in the classroom.

Research Questions

I identified three main research questions to adequately capture teacher perceptions of district and/or school based professional development opportunities for implementing blended learning and how those perceptions influence the implementation of blended learning.

Research Question 1

What are middle school teachers' perceptions of district-based and/or school-based professional development for classroom implementation of blended learning?

Research Question 2

What are middle school teachers' perceptions of the most effective professional development they have attended in regard to the implementation of blended learning within their classroom?

Research Question 3

How do middle school teachers' perceptions of district and/or school based professional development influence their implementation of blended learning in the classroom?

Theoretical Framework

The definition of learning is “the acquisition of knowledge or skills through experience, study, or by being taught” (New Oxford Dictionary, 2010, p. 460). Education is an activity began by one or more participants, created to effect changes in the skill, knowledge, and attitudes of individuals, groups, or communities (Knowles et al., 2015). Acknowledging the distinct difference between learning and education helped to explain how learning focused on the person for whom the change is expected to occur or occurs, and education focuses on the educator.

Andragogy, also known as Adult Learning Theory, originated in the 1950s and was pioneered as a theory and model of adult learning from the 1970s by Malcolm Knowles. Knowles, an American practitioner and theorist of adult education, defined andragogy as “the art and science of helping adults learn” (Knowles et al., 2015, p. 40). “Andragogy became a rallying point for those trying to define the field of adult education as separate from other areas of education” (Merriam, 2001, p. 5). The focus of this study was on professional development

opportunities for teachers and their perception of those opportunities; therefore, Adult Learning Theory was applied as the theoretical framework for the study.

The meaning of Andragogy could not be fully understood without first explaining the meaning of pedagogy. “Pedagogy literally means the art and science of teaching children” (Knowles et al., 2015, p. 41). The pedagogical model continued to be the only model in existence employed by U.S. schools as well as institutions of higher education throughout the 19th century; this resulted in adults being largely taught as if they were children (Knowles et al., 2015). The pedagogical model consisted of teacher-directed instruction, and the learner’s role was to follow the teacher’s instructions (Knowles et al., 2015). In contrast to the pedagogical model, the andragogical model was based on the following premises: adults need to know *why* they should learn something before beginning to learn it, have a self-concept of being responsible for their own decisions, enter learning activities with more life experiences than children, become ready to learn things they need to know and do to cope with daily life effectively, are life-centered in their orientation to learning, and are mainly motivated internally but sometimes motivated by external pressures (Knowles et al., 2015). When considering the premises of the andragogical model, the opportunities for professional development offered to teachers had room for improvement (Knupp, 1981; Zepeda et al., 2014).

Teachers teach the way they learned, and the majority of adult educators were taught using the pedagogical style during their post-secondary experience (Knowles et al., 2015; McGrath, 2009). Andragogy sought to look at how learning in the classroom could be made more appealing for adult students (Knowles et al.,

2015; McGrath, 2009). The 2010 National Educational Technology Plan (NETP) recognized technology was integral to almost every aspect of our lives, and educational technology needed to be utilized to be the most effective and beneficial for students. Additionally, advances in the learning sciences improved our understanding of how people learn and have highlighted which personal and contextual factors most influence their success (Knowles et al., 2015).

Professional development opportunities for teachers should include a teaching style geared toward adult students, and this should be monitored to ensure adult students appreciate the academic experience. Thus, I conducted an examination of teacher perceptions of district support for implementing blended learning through the lens of the adult learning theory (andragogy) because of the underlying question of opportunities for professional development to support teachers in effectively implementing strategies in their classrooms.

Significance of the Study

Researchers have acknowledged blended learning has allowed teachers to differentiate lessons and the delivery of content in a variety of ways that had not been possible before (Alijani et al., 2014; Horn & Staker, 2015; Lalima & Dangwal, 2017; Schlager et al., 2002). Blended learning also had a positive impact on student achievement (Alijani et al., 2014; Horn & Staker, 2015; Lalima & Dangwal, 2017; Schlager et al., 2002; Wang et al., 2015). “The conversation has shifted from whether technology should be used in learning to how it can improve learning to ensure all students have access to high-quality educational experiences” (U. S. Department of Education, 2017, p. 7). Teachers wanted what was best for their students as well as meaningful professional development that

helped them understand how to effectively implement blended learning in their classrooms.

Researchers found middle school students were more likely to lack the self-motivation to attend school (Balfanz et al., 2007; Ortiz-Brewster, 2016). The Association of Middle Level Education (AMLE) formerly named the National Middle School Association (NMSA) focused on the centrality of this developmental stage for middle level school programs and called for them to be developmentally responsive, challenging, empowering, and equitable (NMSA & AMLE, 2010; Downes & Bishop, 2015). Additionally, AMLE identified three categories of characteristics found in effective middle schools, that when combined made up the middle school concept: (1) relevant and integrative curricula taught and assessed in varied ways (Curriculum, Instruction, and Assessment); (2) schools that were organized to cultivate healthy relationships between stakeholder groups and are led by courageous and collaborative leaders (Leadership and Organization); and (3) school cultures that were safe, supportive, and inclusive, in which all students' personal and social needs were addressed by caring adults specifically prepared to work with the age group (NMSA & AMLE, 2010).

As technology became more affordable, districts and schools recognized the importance of educational technology, and that providing students with equitable access to computers held great promise for individualized instruction and improved curriculum (Hansen, 2012). A blended learning classroom provided teachers with options for reaching their students while raising student achievement, which was beneficial for both teachers and students. Downes and

Bishop (2015) cited because the success of 1:1 technology initiatives and the middle school concept depended on similar factors, such as collaborative decision making and responsive school structures, educators benefited from a stronger understanding of how the middle school concept converged with the effective integration of technology in their classrooms and courses.

Researchers agreed a clear definition of blended learning was a vital part of effectively implementing blended learning and meaningful professional development opportunities on blended learning was another critical component (Darling-Hammond et al., 2017; Garrison & Kanuka, 2004; Hrastinski, 2019; Osguthorpe & Graham, 2003). Effective professional development opportunities on blended learning equipped educators with the knowledge to support profound and complex student achievement in their classrooms and it was also noted teacher self-efficacy grew when teachers gained new knowledge from effective professional development (Darling-Hammond et al., 2017; Yoo, 2016). It was vital for teachers to have a sense of accomplishment and see opportunities for growth and advancement in their work to motivate them to fully participate in professional development opportunities (Archibald et al., 2011). Even though access to opportunities for professional development might have been adequate, they could have been seen as impractical to instructional change/classroom implementation if teachers were not motivated to participate in those experiences (Archibald et al., 2011).

Ravhuhali et al. (2015) explained both experienced and inexperienced teachers recognized the benefits of professional development in growing their pedagogical and content knowledge, and applying their knowledge in the

classroom. Deeply rooted concerns and attitudes with implications for teacher preparation include the need to help future blended learning teachers develop competencies with common tools and strategies to manage rapidly changing technology (Oliver & Stallings, 2014). Productive professional development served as a continuation of learning for teachers while raising teacher self-efficacy.

Students had more options than ever before to access the tsunami of information characteristic of today's world and have grown accustomed to utilizing technology-based methods to best fit their needs (Devlin et al., 2013); yet even with this access to technology, students may not have developed 21st century skills or utilized the technology to enhance learning because their teachers were not equipped with the knowledge of best practices for implementing blended learning (Owsten et al., 2008a; Poirier et. al., 2019). Hence, the focus of this study was to examine the middle school teachers' perceptions of district and/or school professional development for implementing blended learning and to what extent those perceptions influenced the implementation of blended learning in their classrooms.

Description of the Terms

The following terms were defined for the purpose of this study.

1:1 Technology

According to Harris et al. (2016), 1:1 technology refers to the purpose of engaging with instructional content, learning, and assessment.

21st Century Skills

Wagner (2008) defined seven survival skills that students need to master to be prepared for their future: critical thinking and problem solving, collaboration across networks leading by influence, agility and adaptability, initiative and entrepreneurship, effective oral and written communication, accessing and analyzing information, and curiosity and imagination. Students were able to take a more active role in their learning because of the available technology, thus allowing them to seek knowledge anywhere in the world by the click of a few buttons (Wagner, 2012).

Blended Learning

Blended learning is the combination of face-to-face learning and internet technology in a way that is not simply an addition to the existing method of teaching (Garrison & Kanuka, 2004). Horn and Staker (2011) defined the implementation of blended learning as “when a student learns in part through online delivery of content and instruction with some element of student control over time, place, path, and/or pace and at least in part at a supervised brick-and-mortar location away from home” (p. 3). For the purpose of this study and for the participants of the study, blended learning was defined as the combination of face-to-face learning and internet technology in a way that is not simply an addition to the existing method of teaching, but rather integrated with existing methods of teaching (Garrison & Kanuka, 2004).

Brick and Mortar School

According to Horn and Staker (2011), a brick-and-mortar school is a school operating in a traditional school building, away from students' homes, where students attended and are supervised.

Implementation

Implementation is generally defined as a specified set of planned and intentional activities designed to integrate evidence-based practices into real world settings (Mitchell, 2011). For this study, implementation was defined as weekly integration of blended learning instruction.

Middle School

According to Hoy and Hannum (1997), the grade configuration of middle schools varies; 5th grade-8th grade, 6th grade-8th grade, and 7th grade-8th grade schools are often designated as middle schools containing middle grades. For the purpose of this study, I defined middle school as 7th grade and 8th grade.

Middle School Teachers

The Association for Middle Level Education (AMLE) (2010), previously the National Middle School Association (NMSE) identified middle grade teachers as educators of young adolescents ranging from 10-15 years of age. For the purpose of the study, I focused on teachers of 7th grade and 8th grade who teach English language arts, math, social studies, or science.

Professional Development

Professional development has been defined as advancing education and knowledge in a teacher's course area (e.g., learning new scientific theories or learning how to teach course-area content and concepts more effectively),

including educating or mentoring in specialized teaching methods that can be used in many different subject areas (Darling-Hammond et al., 2017).

Organization of the Study

The purpose of this study was to investigate middle school teachers' perceptions of professional development opportunities for implementing blended learning and to what extent, if any, these perceptions influenced their own implementation of blended learning in the classroom within an East Tennessee school district. Thus, the central questions of the research, *What are middle school teachers' perceptions regarding the professional development offered by the district and/or school for implementing blended learning?*, *What are middle school teachers' perceptions of the most effective professional development they have attended in regard to the implementation of blended learning within their classroom?*, and *How do those perceptions influence the implementation of blended learning in their classroom?* would allow the opportunity for the participants to provide me with rich, in-depth descriptions of their experience of the phenomenon under study.

This study includes five chapters. Chapter I identified the need for this research via an introduction to the study, the statement of the problem, the research questions, an overview of the significance of the study, and descriptions of important terms. Next, Chapter II presented a review of literature that included the themes within the scholarly research that supported the objective of the study. In Chapter III, I provided a thorough description of the research methodology and design and a review of the limitations and delimitations of the research study. In Chapter IV, the reader is provided with my interpretation of the

qualitative data derived from the study, the coding of descriptive data, and the research findings and Chapter V concluded the study with a presentation of the summary of the findings, the study's conclusions, and implications for practitioners and further research. To validate the study and provide current research, a review of literature surrounding professional development on blended learning, including a definition of blended learning, technological trends of classroom instruction, benefits of a blended learning classroom blended learning and middle schools, blended learning and effective learning environments, technology and student engagement, blended learning and middle schools, leadership and blended learning, as well as literature on teacher perception of district and administrative support is presented in the second chapter.

Chapter II: Review of the Literature

Research focused upon blended learning began around 2000 when it emerged as one of the most popular pedagogical concepts (Güzer & Caner, 2014). As technology advanced and online learning's popularity soared in the United States, K-12 schools sought ways to utilize technology to offer a more personalized approach to teaching and learning (Sorbie, 2015). What may have begun as distance learning, blended learning environments quickly became a foundation of more opportunities for personalized learning for students (Horn & Staker, 2011). According to Poirier et al. (2019), a meta-analysis commissioned by the USDOE revealed instruction with blended online elements provided the greatest average effect on learning outcomes when compared to exclusively face-to-face instruction or exclusively online instruction; however, using technology and online learning in classrooms required a more transformative way of thinking than simply adding a few computers to a classroom (Watson, 2008).

An aspect of an effective blended learning classroom was teachers were not just repackaging old content and putting it online; rather, teachers had to rethink how to deliver the curriculum and received responses to encourage students to think more innovatively and more critically (Hesse, 2017). There was a greater need to expand professional development for utilizing technology and integrating technology into the content learning due to the high amount of technology students used in their everyday lives, and if teachers lagged behind the constant changes in technology, this could leave teachers obsolete technologically (Kalonde, 2017).

Even with its rise in popularity, the majority of existing research on blended learning was conducted within adult technical education programs, students at online universities, and post-secondary settings rather than with K-12 students (Broderson & Melluzo, 2017; Fazal & Bryant, 2019; Pulham & Mohammad, 2018). Drysdale et al. (2013) found research on blended learning in the K-12 environment only accounted for 8% of dissertations and theses, revealing a gap in the research, and explained “adolescent learners have needs, abilities, and limitations that are very different from those of higher education students, where most of the research has occurred” (p. 98). Despite the lack of research on blended learning in K-12 schools, there was a range of research that supported the necessity of professional development to support teachers in their implementation of blended learning (Broderson & Melluzo, 2017; Ertmer et al., 2012; Mama & Hennessy, 2013; Mirriahi et al., 2015; Somera, 2018).

What is clear within the review of literature on blended learning, as Wang et al. (2015) noted, examinations into blended learning were not thorough and several important issues needed to be studied. Even with the empirical evidence of definitions, effectiveness, applications, and implications within the literature on blended learning, there remained a gap in literature specifically focused on middle school teachers’ perceptions of professional development for implementing blended learning (Baran et al., 2011; Turner et al., 2018).

What is Blended Learning?

“In emerging fields, definitions are important because they create a shared language that enables people to talk about the new phenomena” (Staker & Horn, 2012, p. 1). Researchers found blended learning was a topic that was socially

popular but not necessarily understood (Hrastinski, 2019; Oliver & Trigwell, 2005; Parks et al., 2016). Despite the rise in research on blended learning, the term itself caused confusion (Oliver & Trigwell, 2005). Without a common understanding of blended learning, analysis of any data related to the implementation of blended learning in schools was difficult (Oliver & Trigwell, 2005). Researchers have found there were various discrepancies when it came to the meaning of blended learning, and a clear definition would have helped teachers to differentiate blended learning from other forms of learning that have an online component (Garrison & Kanuka, 2004; Osguthorpe & Graham, 2003). Hrastinski (2019) discussed due to the various interpretations of blended learning, it is important that practitioners and researchers explained what blended learning meant to them. Horn and Staker (2011) defined the implementation of blended learning as “when a student learns in part through online delivery of content and instruction with some element of student control over time, place, path, and/or pace and at least in part at a supervised brick-and-mortar location away from home” (p. 3). Garrison and Kanuka (2004) defined blended learning as “the thoughtful integration of classroom face-to-face learning experiences with online learning experiences” (p. 96).

Similarly, the Sloan Consortium defined blended learning as a blended instruction course with the combination of online and face-to-face learning, with 30-79% of the content delivered online (Allen et al., 2007). Most often blended learning was defined as the combination of face-to-face instruction with online learning, with focus on internet-based technologies (Graham, 2006). Blended learning is composed of encouraging, facilitating, and merging online and face-to-

face interactions (Shea, 2007). Another explanation of the term blended learning, it was a combination of a variety of learning environments, learners, teachers, learning affective factors, and brain acquisitions (Zhonggen & Yuexiu, 2015). Oliver and Trigwell (2005) argued the variety of definitions was not helpful but instead left room for interpretations, which allowed for anything to be seen as blended learning; while blended learning's popularity has risen, practitioners' comprehension of blended learning concepts has not.

One point to make is blended learning could not eliminate teachers' face-to-face contact with students, who required support and ongoing guidance (Poon, 2013). While having a clear understanding of blended learning is imperative, the teacher still remained the most important tool to students. Osguthorpe and Graham (2003) further explained, blended learning is more than a teacher pulling up a website on a computer screen; rather blended learning was a teacher using the best of face-to-face learning combined with the best of on-line learning. Oliver and Trigwell (2005) stated, "The term 'blended learning' gained considerable currency in recent years as a description of particular forms of teaching with technology" (p. 17). The general understanding was blended learning comprised a hybrid mix of traditional face-to-face teaching, with a range of mediated communication technologies such as websites, lecture pods, sound files, interactive forums, and chat sites and often comprising online assignment submission and assessment. The exact mix of traditional and online media had considerable variation around the world (Archee, 2015). Horn and Staker (2015) stated the premise of blended learning with this terminology:

Blended learning is the engine that can power personalized and competency-based learning. Just as technology enables mass customization in so many sectors to meet diverse needs of so many people, online learning can allow students to learn any time, in any place, on any path, and at any pace and scale. (p. 10)

For the purpose of this study, blended learning was defined as the combination of face-to-face learning and internet technology in a way that was not simply an addition to the existing method of teaching, but rather integrated with existing methods of teaching (Garrison & Kanuka, 2004). Staker and Horn (2012) described what a classroom with blended learning implemented could look like; as students rotating between learning modalities, one of which was online learning. Researchers explained the need of a clear and uniformed definition for blended learning, but it was evident that blended learning was here to stay and, therefore, important that we understood how to create effective blended learning environments (Graham, 2006). Ultimately blended learning represented an enlightening shift in instruction and learning. Blended learning allowed for the chance to dramatically change how teachers and administrators increased student achievement in a face-to-face setting (Watson, 2008).

Technological Trends of Classroom Instruction

The transformation of technology has unquestionably changed the way education looks (Escuata et al., 2017). These technology advancements have broadened the choices and impacted teaching and learning (Graham, 2006). “Innovation in technology has provided fervent growth and opportunity, while inciting demands of those who have access and those requesting it” (Pratt, 2019,

p. 15). Content delivery in education has predominantly been carried out in a linear manner with the same information delivered to every student at the same time, but with the influx of the online environment, digital content has become increasingly adaptive (Fazal & Bryant, 2019).

“Technology integration requires teachers to alter their teaching processes, no longer being the sole distributor of information. This change in role requires support from many sources in order for the teacher to make the transition” (Baylor & Ritchie, 2002, p. 7). Students live in a world full of technology, which was a stark contrast to the previous generations of students who the U.S. educational system was designed to teach (Grinager, 2006). A survey of college students in 2011 by the 21st century classroom report (CDW-G, 2011) found 31% of students reported to using technology as a learning tool everyday compared to 19% of students in 2010. While the presence of 1:1 technology was not yet a reality in all classrooms, the Z generation of students in K-12 schools are children of a digital age and were more at ease with technology than their parents and teachers (Harris et al., 2016; Watson et al., 2010).

In conjunction with the emergence of 1:1 technology came the issue of perception of technology. “Technology, being laptops or devices, should be seen as tools and not replacements for best practices for teaching in the classroom” (Harris et al., 2016, p. 371-372). Technology skills became very important in the classroom, including ensuring students could effectively communicate their knowledge through technology (Kulpa, 2015). This rise in available technology designed for classrooms led to a rise in the integration of technology with face-to-face instruction (Graham, 2006). Technology alone was not enough to

ensure improved student achievement; it must be implemented effectively and purposefully by a teacher who is trained to integrate it into the instruction (Grinager, 2006). Technology became a way to motivate, differentiate, and provide students new paths to achieve and shine in ways that had not been possible before (Harris et al., 2016).

According to White-Harris (2017), the implementation of technology and computer usage became vehicles for learning. When implemented effectively, technology helped improve academic achievement for students (Grinager, 2006). Luo and Murray (2018) cited many studies of 1:1 technology integration reported positive experiences in the fields of student participation, engagement, and motivation. “Technology has allowed students to be engaged and learn in ways that they never have in a classroom setting before” (Harris et al., 2016, p. 370). These students were able to express themselves in new ways and discover innovative ideas that were not always available in a traditional classroom (Hesse, 2017).

Teachers’ perceptions of their experiences teaching in a 1:1 technology setting and their attitudes of students’ abilities of skill development were beneficial to technology integration development and training, as well as provided more insights into how to effectively integrate technology into classrooms (Luo & Murray, 2018). Unfortunately, what still remained was teachers were often behind in meeting the challenges of the rapid expansion of technology in education (Hartsell et al., 2010, p. 49). Understanding why teachers were behind when integrating technology in the classroom was critical to making changes that may be integral to the successful integration of blended learning for teachers.

Benefits of a Blended Learning Classroom

Blended learning classrooms required teachers to be even more flexible and respond even more frequently to their students and even though these are familiar strategies they are applied in a new and different setting (Anthony, 2019). Blended learning is a fundamental restructuring of the instructional model with a move from lecture-centered to student-centered learning where students were active and interactive learners (Poon, 2013). Fazal and Bryant (2019) explained although many teachers utilized technology in their classrooms, it was often used as a teacher-directed instructional tool; blended learning put the technology in the hands of the students where they could learn at their own pace. In Acree et al.'s (2017) a study of principals enrolled in the Leadership for Blended Learning program, at the Friday Institute for Educational Innovation at North Carolina State University, the participants reported positive changes that went beyond simply using more technology in classrooms. Participants described how they were evolving along with their staff toward better supporting their students through blended learning approaches—instructional and mindset shifts that led to student voice and increased student personalization (Acree et al., 2017).

Researchers have found blended learning classrooms increased student achievement and student engagement (Hesse, 2017; Luo & Murray, 2018). According to Means et al. (2010), a meta-analysis of 50 studies found while online students performed better than face-to-face students, students in courses that blended online, and face-to-face learning did much better than those in only online courses. Flexibility was a major benefit of the blended learning classroom because it accommodated the varied learning styles of students as well as older

students who may have outside commitments (e.g., jobs, family) (Graham, 2006; Hesse, 2017; Poon, 2013). In addition, the technology utilized in a blended learning classroom lessened the issue of lack of time for teachers by automating some of the teachers' tasks and providing students a road map for working at their own pace (Moore et al., 2017).

In a study conducted by Fazal and Bryant (2019) of sixth grade students in a blended learning class, the results of the study showed students scored higher on state and district norm reference tests than the students in the traditional classroom. From observations researchers explained the benefits of a blended learning classroom allowed students a greater range of options that enhanced the learning experience past that of either online or face-to-face modes alone (Jeffrey et al., 2014). Staker (2011) cited blended learning environments provided more frequent and meaningful data to teachers while students experienced more meaningful and richer learning experiences. In a study of high school teachers in Michigan, participants reported the relationship between students and teachers grew and they were able to get to know each other in new and different ways (Vandermolon, 2010). The researcher explained from these findings the relationship between teachers and students was redefined in a blended learning classroom (Vandermolon, 2010). "In order to be an engaging and challenging classroom in the 21st century, it is evident that technology should be a constant tool that is incorporated into learning and that is beneficial to both students and teachers" (Harris, 2017, p. 5).

Owsten et al. (2008b) explained the majority of outcomes research has been done at the undergraduate level, where it often showed how blended learning

had some unique advantages for students over the familiar lectures and total online courses. Higher education has been a part of the blended learning movement, too. Blended learning environments that combined learning strategies, resources, and methods have been implemented in higher education settings for almost 20 years and research has identified many positive effects (Oliver & Stallings, 2014). Garrison and Kanuka (2004) explained blended learning was an effective strategy with low-risk that prepared higher education for the continuous advancements in technology. Higher education institutions began implementing online and/or blended learning in several courses to best serve students academically while preparing them for a 21st century workforce (Hillard, 2015). Leaders of higher education institutions were tasked with positioning their institutions to meet the connectivity demands of students along with the demands for richer learning experiences, redefining higher education (Garrison & Kanuka, 2004). Shand and Farrelly's (2017) study of pre-service teachers as students in a blended learning course found the structure of the course led to a better understanding of course expectations, more opportunities to learn from their peers, and more opportunities for personalized learning.

The ability to control your own learning pace and to self-direct were vital skills in today's society and workforce (Hesse, 2017). Schools needed to prepare students for post-secondary education or a workforce that required them to be able to analyze data and acquire information, not a world of information-based jobs that may not exist anymore (Watson, 2008). Allen (2013) found in study of public-school teachers in North Carolina, 95.6% of participants felt utilizing blended learning in the classroom was an effective method for teaching 21st

century skills and preparing students to be college and career ready. When students can be taught how to utilize technology effectively for learning and teachers are supported in the effective implementation of blended learning in their classrooms, the outcome was students who were prepared for a post-secondary education, as well as their readiness to compete in a global market (Abello, 2018). Wagner (2010) furthered the argument by stating, “Effective communication, curiosity, and critical thinking skills, as we will see, are much more than just the traditional desirable outcomes of a liberal arts education. They are essential competencies and habits of mind for life in the 21st century” (p. 23).

Rivera (2017) stated, “Blended education is quickly rising as the fastest growing, effective program to address the learning challenges in students with special needs” (p. 80). The blended learning classroom combined the physical, conventional classroom with virtual learning, providing important opportunities for students with special needs, and required collaboration between the regular education and special education teacher, which supported the goals of students with special needs (McCown, 2014; Rivera, 2017). Keramidas (2012) found students enrolled in a class implementing blended learning had fewer absences than students enrolled in a traditional class, and students preferred the flexibility the blended learning classroom offered. For students with special needs, flexibility was crucial to address the varied learning needs of each individual child (Keramidas, 2012; Rivera, 2017). When implemented effectively blended learning has exhibited effectiveness in teaching core ideas and raising the overall assessment of students with special needs and learning disabilities (Rivera, 2017). Hesse (2017) proposed blended learning was effective for more than just lower-

level skills but also helped transform education to promote higher level thinking. Blended learning classrooms allowed for the opportunities to teach higher order thinking skills while engaging students in a more creative and critical thought process, but the teacher must purposefully select delivery methods of the content that appealed to the varied learning styles, offered a variety of methods for accessing materials, and engaged beyond just rote memorization (Hesse, 2017; Smith & Smith, 2012).

Special education programs strived to provide students with learning disabilities a least restrictive environment in addition to curriculum that was equivalent to the general education students (Fisher, 2015). Researchers have found a blended-learning classroom could be more inclusive because it allowed students to work on different content areas and target activities in the same classroom, allowed for opportunities to broaden special education inclusion efforts (Fazal & Bryant, 2019; Fisher, 2015). Fisher (2015) also noted the implementation of blended learning might have made a way to modernize the IEP (Individual education plan) into a tool that drove instruction instead of simply a contract to explain services.

Blended learning allowed teachers to differentiate learning opportunities for students by effectively combining purposeful face-to-face instruction with online technology to enhance and personalize students' learning (Fazal & Bryant, 2019; Harris, 2017). Differentiated instruction was defined as a way to approach teaching and learning for students with varying abilities while they were in the same class and the purpose is to maximize each individual student's growth and success by meeting each student where they were instead of expecting students to

adapt themselves for the curriculum (Hall, 2002; Huebner, 2010). The differentiation options that came with a blended learning classroom such as choosing the place, pace and path to achieve the academic goal were not available to teachers before (Allen, 2018; Fazal & Bryant, 2019). These opportunities for students to determine how they will achieve the intended objective also provided the chance for the students to participate in a stimulating learning environment (Harris, 2017). Using the data gleaned from the technology in a blended learning classroom enabled the teacher to differentiate and meet the needs of the students. Blended learning allowed teachers to personalize and co-create learning environments with students (Allen, 2018; Powell et al., 2015).

Blended Learning and Effective Learning Environments

Educators became increasingly aware of the need to blend technology into students' learning environments because, for many students, learning in the traditional brick and mortar environment was no longer the most effective learning environment (Oliver, 2018). According to Graham (2006), sole lesson delivery method limited a student's learning, while blended learning engaged students, allowed them control of their own learning, and extended learning beyond the length of a normal school day.

Researchers found effective learning environments were a combination of assessment-centered, community-centered, learner-centered, and knowledge-centered, and blended learning enabled the opportunity to be challenged while learning and reaching their individualized learning goals (Harris, 2017; Shea, 2007). According to Darling-Hammond et al. (2020), educational goals emphasized the problem-solving and interpersonal skills needed for 21st

century success, which could not be developed through passive, rote-oriented learning focused on the memorization of disconnected facts.

Schlager et al. (2002) explained blended learning was a valuable alternative approach to overcoming a variety of limitations that affect online learning and face-to-face learning. Additionally, the blended learning approach embraced the assets of both types of learning, and learner thoughts about blended learning could determine its effectiveness (Kintu et al., 2017). Alijani et al. (2014) stated, “This concept is considered by many one of the most promising instructional practices in educational settings” (p. 138).

An effective learning environment can raise student engagement and achievement in the classroom. Alijani et al. (2014) conducted a study of 186 teachers from The Knowledge is Power Program (KIPP) schools in Louisiana; 94% of the respondents believed blended learning increased a school’s academic success, and 48% of the respondents believed blended learning was more effective than traditional face-to-face instruction. In California, some charter schools utilized blended learning and generated some of the highest test scores in the state while serving mostly low-income English language learners (Agostini, 2013; Lake & Hernandez, 2011). These studies supported the use of blended learning in schools, and allowed students the tools to learn at their own pace and teachers the tools to improve effectiveness. According to Kintu et al. (2017), blended learning was meant to raise learners’ levels of knowledge construction to develop analytical skills and developed skilled learners who can be creative graduates to meet employment demands through creativity and ingenuity. Additionally, Yang (2011) conducted a study about colleges who had deficits in

English reading and found students in an experimental group performed better on a reading assessment after participating in a blended program.

Bodden-White (2015) stated, “As the use of blended learning expands, it is important to examine the factors that contribute to its use in classrooms as well as its relationship to student engagement” (p. 6).

If we are to take seriously the notion of a conceptual framework through which we can better understand, study, and design blended learning environments, we need to take seriously the notion that it is through thoughtful design of the interaction that most learning occurs. (Shea, 2007, p. 28).

The advantages of blended learning were students learning in part online without losing social interaction; blended learning offered more options for communication, digital fluency, self-responsibility, self-motivation, self-discipline, and blended learning gave new life to established courses (Dangwal, 2017). Poirier et al. (2019) explained blended learning environments have the “ability to offer students control over time, pace, path and/or place, allowing for more student-centered learning experiences and greater flexibility for class participation and engagement” (p. 3). In addition, a blended learning environment allowed teachers to pair the right student with the right content at the right time, and each blended classroom is unique to best fulfill the needs of both the learner and instructor (Powell et al., 2015). When purposefully implemented, digital technologies had an important role to play in the engagement of today’s learner (Vaughn, 2014). Additionally, socially, the trend was to gravitate toward blended learning as a choice to the quickly increasing use of solely online content, but in

K-12 schools, specifically at the primary and middle schools, the social and emotional development of students was a vital part of the overall school experience; so, student preparedness was of equal if not of greater importance (Murphy, 2017). The education system looked at a redefinition of the classroom to include flexible learning environments, in which students were offered a variety of ways to learn while communicating and collaborating with other students who might be outside their school, and possibly outside their country (Watson, 2008). Harris (2017) found blended learning had positive effects on student achievement and student engagement, but further research was needed to fully understand any causation. Educators of a blended learning classroom had the ability to deliver personalized learning to their students, so students were able to have their individual academic needs met (Horn & Staker, 2015).

Technology and Student Engagement

“Recent advancements in technology including the emergence of ubiquitous computing, social networking, and digital representations of vast amounts of information have altered the way students interact with content and with each other” (Lee & Spires, 2009, p. 62). The establishment of No Child Left Behind Act of 2001 (NCLB) placed accountability and high stakes testing as top priorities for school systems, including incorporating technology into the curriculum (Harris et al., 2016). This incorporation of technology into the curriculum led to many school systems adopting a 1:1 technology initiative (Thompson, 2014). According to Hesse (2017) and Luo and Murray (2018), a large number of studies appeared to convey positive results of 1:1 technology initiative in the areas of student involvement, motivation, and student

engagement, including student's perception of the blended learning classroom being more flexible to allow for more student control over their own learning. There were important balances in an effective blended learning classroom, including the content being taught to the types of technology utilized (Alijani et al., 2014; Jones, 2019). Researchers explained in a well-balanced classroom when student interaction and engagement occur, relevant and important learning was a near certainty (Alijani et al., 2014; Jones, 2019).

A survey conducted in 2011 found 94% of students thought understanding and utilizing technology would increase their academic and career opportunities; however, only 39% felt their high school was currently meeting their technology expectations (CDW, 2011; Tucker, 2012). Ultimately, the effective integration of technology into the curriculum of today's learners was imperative because technology was a part of everyday life. While students yearned for more creative opportunities to use technology, from the students' perspectives, technology use tended to be predominantly for productivity, but many schools found it difficult to integrate technology in ways that supported instructional goals (Hughes & Read, 2018; Parks et al., 2016).

Blended Learning and Middle Schools

Researchers explained middle schools were both unique and had been understudied (Hoy & Hannum, 1997; Fazal & Bryant, 2019). How blended learning was supported at the elementary and middle school level has not been widely researched (Fazal & Bryant, 2019). Even with the rise in research studies on blended learning, K-12 focused blended learning research accounted for only a small amount of published peer-reviewed research on this topic; the majority of

the research was on the college or graduate school level (Fazal & Bryant, 2019; Hesse, 2017; Oliver, 2018).

Middle schools were often structured differently from other schools within their districts, including other middle schools (Lamb & Weiner, 2018). Research has suggested for technology integration to be successful; it required teachers, school, and district leaders to learn and change (Ertmer et al., 2012); it seemed paramount that we pay attention to the foundation of middle schools if we want to see technology endeavors thrive (Lamb & Weiner, 2018). Downes and Bishop (2015) found the integration of technology was a strong fit with the core practices of middle grades, including team activities that developed culture, choice, individualization, and creativity. Champions of the middle school concept have long embraced the value of being developmentally responsive to the individual nature and needs of young adolescents (Downes & Bishop, 2012), as middle grades are viewed as an important time for identifying and intervening with potential dropouts (Balfanz et al., 2007). According to Ortiz-Brewster (2016), middle school students lacked the self-motivation that adults demonstrated when attending school and succeeding to achieve a promotion or achieve a life-long goal. In a study conducted by Luo and Murray (2018) of a small group of middle school math teachers, their results revealed the majority of teachers had a positive attitude and were open to using connected technology to support teaching and learning in the classroom as they had been discovering various methods of blended learning in the 1:1 middle school classroom.

Downes and Bishop's (2015) study of 7th and 8th grade teachers and their students over a 4-year period found both teachers and students expressed

availability to educational technology was a crucial force for engagement, meaningful to students' lives, and motivating for their teachers. Within the middle school environment, utilized digital technologies in a 1:1 setting allowed for more student-centered pedagogies that lessened the impact of distractions on student learning (Donovan et al., 2010), and Hughes and Read (2018) added middle school students in three schools valued opportunities to create with technology, such as authoring comics, brochures, or movies.

Implementing blended learning allowed for student-centered learning and personalization for students and for educators, including teachers and counselors, to reach students in ways that were not possible prior (Horn & Staker, 2015). Downes and Bishop (2012) suggested middle grade students valued the ease and efficacy with which they were able to finish tasks due to using the technology. According to Rideout et al. (2010), students in middle grades were attracted to new technologies more than any other age group. Middle school students were seeking more teacher-modeling of student-centered, active learning with technology, according to Steinberg and McCray (2012). For these transformations to be effective, there had to be support in place for teachers (Watson, 2008). Researchers have suggested the inquiry into the pedagogical struggles with 1:1 technology initiative revealed familiar lessons on how to engage middle schoolers in learning while also giving a better understanding of technology integration in and out of school in the lives of middle schoolers (Downes & Bishop, 2015); however, Drysdale et al. (2013) argued future research is warranted in all areas of K-12 blended learning due to the lack of research in this area, including professional development and faculty disposition when implementing blended

learning. Furthermore, Pratt (2019) explained today's pedagogy and digital technologies vary within the elementary, middle, and high schools in the types of schools, as did the level of student choice depending on the student's developmental ability, academic topic or area of study, and learning through technical ability, skill level, and knowledge.

Additionally, Luo and Murray (2018) recommended researchers studying schools that utilized the technology to implement blended learning initiatives focused on uncovering how the 1:1 technology initiatives impacted blended learning, the challenges 1:1 technology initiatives may have within the middle school age group, and the strategies that teachers and school districts implemented to solve those challenges. This information needed to drive blended learning instruction and inform teachers on design and delivery of content that was aligned to the middle school learner's needs (Vandermolon, 2010).

Professional Development on Blended Learning

Researchers have suggested purposefully implemented, well-constructed professional development drove desirable transformations in teacher practice and student outcomes, but was also one of the most significant issues facing districts when integrating technology is the lack or non-existent educational vision (Darling-Hammond et al., 2017; Herold, 2016; Knupp, 1981). The reality for teachers is they were often required to participate in professional development that did not apply to the needs they face in their classrooms or schools (Myzell, 2010). This reality of professional development for teachers explained the difficulty of implementing blended learning due to differing perceptions of technology and the lack of understanding of what blended learning really meant

(Dziuban et al., 2018; Maxwell, 2016). Effective professional development has been proven to have a positive impact on teachers, and professional development on blended learning was no different. Researchers have found teachers recognized the lasting impact of effective professional development in growing their pedagogical and content knowledge, including the skills and strategies needed to increase student's learning (Ravhuhah et al., 2015).

Correia's (2016) study of classroom teachers found participants expressed a desire for personalized professional development. Parks et al. (2016) stated, "Various delivery modes and PD models offered educators the chance to dive deeper into areas of interest and explore new concepts both independently and collaboratively and provided another layer of sensitivity to the challenges experienced by their own students" (p. 98). Myzell (2010) also reported teaching quality and school leadership were the key factors in increasing student achievement, and for teachers, schools, and district leaders to be as effective as possible, they had to continually pursue knowledge of best practices to help students reach their highest levels, but frustrations rose because teachers were frequently required to attend a one-size fits all professional development. Additionally, Larsen (2012) reported findings from a study of teachers and students enrolled in an intensive English program; teacher participants found blended learning professional development beneficial because they were provided with the pedagogical reasons for implementing blended learning in their classes and it motivated them. "Truly blended learning requires that teachers approach their role differently, as guides and mentors instead of purveyors of information" (Watson, 2008, p. 16).

Future teachers also need to be prepared to teach students in multiple modalities, including both the traditional and online modalities as well as how to effectively combine these for a fluid blended learning experience (Kennedy & Archambault, 2012; Shand & Farrelly, 2017). Using technology was not an optional after thought or a skill that teachers could be expected to simply pick up once they get into the classroom; instead, teachers needed to leave teacher preparation programs with strong understanding on ways to use technology to enhance learning (USDOE, 2017). Understanding the balance of online instruction with traditional face-to-face instruction was a critical piece of information for teachers who are implementing blended learning (Alijani, et. al., 2014; Jones, 2019; Vandermolon, 2010; Watson, 2008). “For these changes to be successful, schools and districts must support existing teachers through professional development, and pre-service education programs must provide blended learning training for future teachers” (Watson, 2008, p. 18).

Mama and Hennessy (2013) suggested for an innovation to be successfully implemented, it was paramount to understand a teacher’s pedagogical beliefs. Somera (2018) conducted a qualitative multiple case study with fourth and sixth grade teachers and found teachers identified a need for more support and instruction during their move to blended learning. In Ertmer et al.’s (2012) study, the researchers found professional development to be one of the biggest enablers to teachers integrating technology in their classroom. The buy-in from teachers to take advantage of the online component of blended learning was one of the critical components to successfully implementing blended learning, including

professional development opportunities for teachers who demonstrated examples of effective blended learning classrooms (Hesse, 2017; Mirriahi et al., 2015).

Hartsell et al. (2010) explained the problems some teachers face when integrating technology included the lack of knowledge on how to use technology tools or the confidence in integrating technology, which were components of blended learning. Professional development was one of the biggest enablers to teachers integrating technology in their classroom (Ertmer et al., 2012).

“Technology integration alone is not enough—knowledgeable, trained teachers who are afforded the opportunity to self-reflect, evaluate, and alter their pedagogy, accordingly, are essential for the proper use of new technological tools and blended learning programs in their classrooms” (Schechter et al., 2017, p. 575). Baran and Correia (2014) stated, “The approaches to online teacher preparation and support need to be redirected away from technology-centered programs, which treat technology as a separate entity to be learned and online teaching as an isolated role to be performed” (p. 101). Murphy (2017) further explained professional development needed to embrace the idea that teaching with technology was not just including an online component to a typical math lesson. Kalonde (2017) noted teachers trained themselves to use some of the technologies, and since they trained themselves, teachers would be much more skilled if effective professional development was provided to them; however, teachers were frequently left to pursue pedagogical development on their own, and technical support was offered as a last-minute thought on a very limited basis (Larsen, 2012).

Modeling blended learning through professional development was an effective strategy for both teachers and administrators (Acree et al., 2017; Pratt, 2019). Watson (2008) stated, “Professional development needs to quickly evolve to model best practices for blended learning, allowing teachers to experience blended, personalized learning themselves” (p. 16). Teachers should not have decided what technology to use, when to use technology, and for what reasons to use the technology in isolation of strategies and research on learning, instruction, and assessment; they should have received this information through effective professional development and collaboration with their peers (Kulpa, 2015).

Opportunities for blended learning professional development needed to extend throughout the year for teachers to cultivate and apply these skills (Stevens et al., 2018; Vandermolon, 2010). In Luo and Murray’s (2018) study, middle school teachers had a positive reaction to exploring blended learning opportunities for their classrooms. Alijana et al.’s (2014) study examined teachers in 10 different schools serving students in grades K-12 who have implemented blended learning into their classrooms and found *initial setup/training* was the most important factor when implementing blended learning.

Hartsell et al. (2010) conducted a four-week study of fifth-eighth grade math teachers where the professional development focused on the integration of technology in math instruction. Hartsell et al. (2010) found the participants expressed confidence when applying what they have learned from the professional development, even if they had never used a computer and that it is necessary for professional development to be delivered over a longer period of time to effect change in teachers’ confidence levels. Vandermolen (2010)

suggested teachers needed to be sufficiently prepared for the rigors of teaching that were different in the blended setting, including adequate time and training needed prior to and after the implementation of blended learning in their classrooms.

Professional development provided to teachers should also include training and information on setting boundaries related to student exposure to technology (Luo & Murray, 2018). Ultimately, professional development on blended learning needed to expose teachers to educational technology for effective pedagogical practice to occur (Kassner, 2013). In a study of K-12 teachers, Kennedy (2017) noted the participants expressed effective professional development was when teachers had a choice in deciding what to learn about and when the professional development was not delivered from the top-down.

The need for meaningful professional development with a focus on blended learning was critical for teachers to effectively implement blended learning in the classroom. Research has shown there was concern that blended learning courses would fail to reach their full effective potential if teachers were not exposed to such opportunities (Jeffrey et al., 2014; Vandermolon, 2010). Thus, an examination of research related to school leadership and blended learning was warranted.

Leadership and Blended Learning

“Another variable with high predictive influence was the level of technology leadership and support for professional development” (Baylor & Ritchie, 2002, p. 18). Agostini (2013) explained while the effective implementation of blended learning in the classroom may be one solution to

America's problem of improving public education, a lack of qualified administrators to guide these 21st century schools threatened to ruin this promising school reform strategy. Acree et al. (2017) noted, "Research consistently indicates the importance of school leadership in improving student learning and outcomes" (p. 108). Researchers have suggested instructional leadership has become one of the key areas of focus in developing school leaders who can improve student outcomes (Agostini, 2013; Darling-Hammond et al., 2017).

In addition to the improved outcomes linked to when technology is supported by knowledgeable school leaders, even the simpler integration of technology in schools was linked closely with technology leadership (Agostoni, 2013). Leaders ensured policies and resources provided teachers with the appropriate tools and continual support to effectively personalize learning in their classrooms (USDOE, 2017). The findings from a study of high school principals in South Carolina confirmed "although technology infrastructure is important, technology leadership is even more necessary for effective utilization of technology in schooling" (Murphy, 2017, p. 94).

With the implementation of blended learning, school leaders also played an important role in influencing the instructional strategies used by teachers (Bodden-White, 2015). Holland and Piper (2016) noted, in both K-12 education and higher education, effective implementation of blended learning was combined with high-trust leadership. Successful implementation of blended learning in classrooms required a consensus by multiple stakeholders including those at the district and school levels. According to Baylor and Ritchie (2002), administrators

who promoted the utilizing technology, not only in their words but also in their actions, gave confidence to a technology culture.

In Acree et al.'s (2017) study of 270 principals from across the United States, the researchers explained school leaders must have a clear, articulate vision in guiding decisions made for their schools and those within the school. The reality faced by many school leaders was too often they were told to integrate technology without any training or time to plan (Acree et al., 2017). In addition to teachers, administrators have limited knowledge of blended learning, including the best practices for observing and evaluating a teacher's performance on implementing blended learning (Parks et al., 2016). High quality blended learning did not just happen; research studies have shown the purposeful integration of blended learning, which would demand effective school leadership, broadened and deepened student exposure to classroom content (Edgenuity Research, 2017). "It requires collaborative leadership, strong culture, rigorous classroom practice, practical professional development, and robust infrastructure to ensure blended learning success" (Edgenuity Research, 2017, p. 26).

Dawson and Rakes (2003) surveyed 1,104 K-12 public and private school principals and they found the amount of technology training each principal had within one year of the study influenced the school's technology integration and they focused on the methods and procedures of integrating technology had considerably greater impact than those who received training focused on how to utilize the technology. While Dawson and Rakes's (2003) research focused on the integration of technology instead of on the student outcomes related to the instructional technology or blended learning, the findings spoke to the value of

technology leadership in the successful implementation of technology to the school's curriculum. Murphy (2017) explained a common role of the principal that emerged was the ability of the principal to convey a strong vision, and when their vision was shared it led to increased chances for the effective implementation of blended learning in the classroom. With the understanding that effective leadership can positively affect the implementation of blended learning, the question remained of why so many schools and/or districts provided little or no professional development to their leaders; yet many states and districts continue to struggle to understand and provide the support and professional development opportunities that were vital to helping principals fulfill their potential of success (Acree et al., 2017).

Teacher Perceptions of District and Administrative Support

Due to the ever-changing educational initiatives and professional development processes, teacher perceptions of effective professional development experiences were relevant to administrators and policy makers (Kennedy, 2017). "Creating a positive relationship with teachers is a critical task for the principal" (Methner, 2013, p. 20). A study of teachers in Ohio found the efforts to build teacher-principal relationships and the nurturing of a school climate had an influence on teacher ability and willingness to participate in reflective practice and self-analysis, which led to better student outcomes (Methner, 2013). Effective professional development resulted in better outcomes if school and district leaders worked together to support a culture of continuous learning, value and encourage teacher voice through designs that compliment teacher's evaluations, and related professional development to teachers' everyday contexts and "Teacher

perceptions of school-based and district professional development are a direct reflection of what teachers have actually experienced” (Kennedy, 2017, p. 88). Dinham (2007) stated, “No leader can accomplish change and renewal on his or her own and thus the importance of relationships, both personal and professional, cannot be overstated” (p. 273). Providing students with the best education was the goal of educators, administrators, and district leaders, thus the impact of these relationships was further emphasized (Methner, 2013). District and school leaders needed to understand teacher goals and create professional development opportunities that supported those goals and, therefore, discouraged ineffective professional development opportunities (Kennedy, 2017).

Researchers have highlighted the importance of relationships and the influence on teacher perceptions of support (Dinham, 2007; Methner, 2013). School leaders who valued their teachers’ professional development opportunities, as well as their own, offered encouragement and support for teacher learning both inside and outside of school and had an influence on teacher perceptions when implementing new strategies (Dinham, 2007). According to Harbin (2019), educators’ predispositions about blended learning plays a factor; institutions that implemented blended learning needed to understand this required asking some educators to change their entire archetype of teaching. The confidence and knowledge as a blended teacher was a progression, and it was imperative for administrators and district leaders to recognize and support teachers who worked to evolve in their understanding and implementation of blended learning instruction in their classrooms (Vandermolon, 2010). “Relationships and trust are sovereign in the development of a growth mindset

culture, especially when encountering something innovative” (Pratt, 2019, p. 98). Bringing an expert instructor for professional development to integrate blended learning would have helped to motivate and inspire teachers to participate and engage in their own professional growth and learning.

Conclusion of Review of the Literature

Blended learning is not *more of the same*; rather it is “about rethinking and redesigning the teaching and learning relationship” (Garrison & Kanuka, 2004, p. 99). Alijani et al. (2014) stated “that having a precise vision, mission, and purpose are crucial in implementing a blended model that produces improvement” (p. 139). Parks et al. (2016) stated, “As blended instruction continues to increase across the United States, improved pedagogy that is aligned to research-based best practices should become the norm” (p. 98). Blended learning was challenging and transformational; it brought in chaos into the classroom, while answering to the needs of today’s teachers and students (Pratt, 2019).

Zhonggen and Yuexiu (2015) found while blended learning has become more widely known, it still had some issues when implemented in the classroom. Often the issue is the lack of pedagogical and technical knowledge teachers had to develop high-quality learning experiences for students in a blended learning classroom (Larsen, 2012). “K-12 teachers and administrators have moved forward somewhat blindly into the realm of blended learning” (Drysdale et al., 2013, p. 98).

One important issue was delivering meaningful and effective professional development designed for educators to aid in the appropriate adoption and implementation of blended pedagogy in the classroom (Schlager et al., 2002).

Professional development opportunities needed to educate teachers in helping students become active learners by combining the 1:1 technology with blended learning pedagogy (Luo & Murray, 2018). Teacher support was instrumental in the successful implementation of blended learning, including reliable and transparent resources that enhanced the learning outcomes instead of obstructing them (Garrison & Kanuka, 2004).

Effective professional development gave teachers authentic opportunities to experience the benefits of implementing blended learning into their classrooms (Kennedy, 2017; Mirriahi et al., 2015; Parks et al., 2016). In addition, teacher preparation needed to be a continuation of professional learning, so teachers were not simply prepared to teach a blended learning class but rather the development of teachers as a blended learning educator (Vandermolon, 2010). Teachers needed opportunities to collaborate in learning, pursue knowledge and continue acquiring new skills with their students, and district leaders needed to develop a plan for creating learning experiences that provided the appropriate tools and supports for all learners to flourish (USDOE, 2017). Education initiatives rarely succeeded without the proper training for administrators and teachers, and blended learning was no different.

Future research on blended learning needed to include best practices for promoting teachers' professional development (Zhonggen & Yuexiu, 2015). A clear understanding of the term blended learning and effective professional development for teachers would have helped clear the way for educators to remain focused on instructional objectives when creating blended learning environments for students (O'Byrne & Pytash, 2015; Powell, 2015). Teachers

inevitably faced difficulties and challenges when planning instruction for learners in this connected digital age (Luo & Murray, 2018). “When properly implemented, students should not experience blended learning as just another district or school level initiative” (Murphy, 2017, p. 1). The focus for blended learning remained on enhanced learning with blended instruction that successfully impacted students in the classroom and beyond the confines of the regular school day (Parks et al., 2016; Watson, 2008). As research on blended learning continued to rise, teachers and administrators felt more confident in their abilities to create and implement effective learning environments (Drysdale et. al., 2013).

The review of pertinent literature surrounding blended learning and the professional development opportunities for the implementation of blended learning in the second chapter revealed a certain need to research the correlations between middle school teacher perceptions of district and/or school professional development support offered and the effective implementation of blended learning. The research specifically focused on middle school teachers’ perceptions of district and/or school professional development offered for effectively implementing blended learning in the classroom, and the third chapter will outline the methodologies in which the research will be conducted.

Chapter III: Methodology

Effective professional development had an important impact on teachers' implementation of blended learning in the classroom (Acree et al., 2017; Ertmer et al., 2012; Mama & Hennessy, 2013). To implement blended learning effectively, teachers needed to understand and be prepared to integrate blended learning instruction to have experienced success in the classroom (Oliver & Stallings, 2014). Understanding teacher perceptions of professional development experiences and opportunities for implementing blended learning helped improve blended learning professional development and instructional implementation, which made a blended learning classroom more effective. Hence, the purpose of this study was to investigate middle school teachers' perceptions of professional development opportunities offered for blended learning and to what extent, if any, these perceptions influenced their own implementation of blended learning in the classroom.

Research Design

By the turn of the 20th century, qualitative research studies were on the rise, and interest in qualitative research has grown throughout the 21st century (Creswell, 2014). Stemming from a long tradition in anthropology and sociology, qualitative research reached a status in the social sciences and applied fields of practice equivalent to quantitative research designs such as surveys and experiments (Merriam, 2001). Qualitative research involves the investigation and understanding of the meaning individuals assigned to a problem (Creswell, 2014). Qualitative inquiry documents the experiences people have based on their own words from their perspectives and the data that develops from patterns and

themes (Patton, 2015). According to Creswell (2012), qualitative educational research is important due to the evidence collected from reliable studies that informed policymaking decisions made at the federal, state, and local levels.

For this study, I sought to understand how participants perceived their experiences and attribute meaning to those experiences, so a qualitative design was applied (Merriam & Tisdell, 2016). A qualitative interpretive design is a type of social inquiry that focuses on the way people interpreted and made sense of their experiences and the world in which they live (Merriam & Tisdell, 2016). To fill the gap in the extant research and reveal a better understanding of effective professional development and implementation of blended learning for middle school teachers specifically, I conducted a qualitative study that included an online questionnaire and participant interviews. Questionnaires and interviews are appropriate methods of data collection for qualitative research because both allowed the researcher to better understand a topic or experience from the personal perspective and context of the participants (Denscombe, 2007; Merriam & Tisdell, 2016). Bogden and Biklen (2006) explained open-ended questions allowed participants the opportunity to be honest and reliable in their responses when based on experience and expertise. In this qualitative, interpretive study I collected data via an online questionnaire and individual interviews, then transcribed and coded the qualitative data to identify general themes prior to interpreting the data (Creswell, 2014).

Role of the Researcher

The most common form of qualitative research involved the building of knowledge by me, as I sought to gain an understanding of the phenomenon from

the perception and experience of people in their natural surroundings (Merriam, 2001). My role as the researcher in this study included serving as the sole data collector (Creswell, 2014). I developed the research questions that guided this inquiry, the questionnaire and interview protocol used to collect data, facilitated all data collection, and completed all steps of data analysis. In qualitative research, the researcher poses the greatest threat to validity (Creswell, 2014). As such, the reporting of bias and ethical considerations was necessary to maintain trustworthiness and credibility. I served in a technology position within the school district under study and my experience included work with four middle schools to assist teachers and students as part of 1:1 implementation of Chromebooks. Thus, the inspiration for this study came from working with implementing the 1:1 technology.

To mitigate any potential bias, this research study did not include any middle schools where I served to support teachers in the integration of technology. I felt utilizing the web-based questionnaire and individual, in-depth interviews for data collection mitigated any biased responses. Additionally, I withheld any personal opinions to maintain trustworthiness of the entire study and processes involved. Due to the possibilities of unintended results, I kept an open mind throughout the study and did not let any preconceived notions affect my role as the researcher (Patton, 2015).

Participants of the Study

The sample of participants for this qualitative study were purposefully identified from the population of middle school teachers in a school district located in the Eastern Region of Tennessee. The district under study, the Eastern

School District (pseudonym) consisted of 29 schools, including 10 middle schools with 7th and 8th grades, served approximately 15,000 students, and employed more than 1,400 teachers. I chose this district due to the large number of middle school teachers who could potentially serve as participants and because 1:1 technology had been provided to all students between 3rd and 12th grade. Access to a large number of prospective participants within a school district that has uniformly implemented 1:1 technology for all students in 3rd and 12th grade provided me with an opportunity to collect rich, contextual data from multiple data collection sites regarding teacher perception related to professional development regarding blended learning. I invited all core content (i.e., English language arts (ELA), math, science and social studies) middle school teachers from six middle schools to participate in the study because all teachers and students in these subject areas were included in the district's 1:1 technology program.

Following the initial collection of data from the online questionnaire, I implemented criterion-based sampling and identified possible interview participants. Potential participants for interviews were selected based on the following criteria: three years of teaching experience within the district, which is the minimum number of years of professional experience for a teacher to accrue Tennessee Value-Added Assessment System (TVAAS) scores and an individual level of effectiveness rating; at least two consecutive years of teaching middle school in 7th and/or 8th grades to demonstrate a strong understanding of the standards for the grade band; at least two years of experience implementing instructional technology to demonstrate a stronger understanding of implementing

blended learning; attendance at school or district professional development on implementing instructional technology; and self-reported strong level of comfort implementing instructional technology.

These criteria were chosen based on the interview goal to further understand teacher perceptions of support offered in the form of professional development opportunities to effectively implement blended learning and to what extent, if any, these perceptions influenced their own implementation of blended learning in the classroom. Out of 70 potential participants thirty-two participants completed the questionnaire, and five participants met the criteria and three agreed to be interviewed. Due to the COVID-19 pandemic and social distancing requirements I conducted the interviews via Google Meet and recorded each interview.

Data Collection

Prior to beginning data collection for this study, I submitted a research request to the school district (see Appendix A) seeking permission to conduct this qualitative study, including permission to contact 7th and 8th grade core content, ELA, math, science, and/or social studies teachers for participation in the study. After receiving permission from the school district, I submitted an application to the university's IRB requesting permission to conduct the study. Following IRB approval, I emailed the principals of the middle schools (see Appendix B) to inform them of the purpose of the study and communicate approval from the district to contact participants and begin data collection. After contacting the district to gain permission to conduct the study and then emailing the school principals for informing purposes, I obtained email addresses for 7th and 8th

grade ELA, math, science, and social studies teachers from the school's websites. Prospective participants were contacted via email and those who agreed to participate in the study did so by electronically signing the informed consent at the beginning of the questionnaire (see Appendix C).

In this study, data collection took place outside of school-based site locations via web-based questionnaires and online interviews. This allowed me to collect data from a larger group of participants and allowed for as little disruption for the teachers and sites as possible (Creswell, 2014). Due to the number of middle school locations and the number of participants with firsthand experience related to blended learning professional development and implementation, web-based questionnaires were the best fit for the initial data collection method. According to Denscombe (2007), questionnaires were defined as research instruments that depend on written information given by participants in response to questions asked by the researcher. Web-based questionnaires through Google Forms (see Appendix D) were utilized due to the large size of the prospective sample for this study and the extensive data that can be collected using a web-based questionnaire (Creswell, 2012).

The questions on the questionnaire were written and then modified to ensure appropriate alignment to the research questions and included both open-ended and closed-ended questions to capture the essence of experiences concerning teachers' perceptions of district support for implementing blended learning in their classrooms. Use of questionnaires allowed data to be collected from a large group of participants and provided a consistent questioning format. This method also allowed me to collect data from the participants that may not

have been possible otherwise due to the participants' professional and personal time constraints (Merriam & Tisdell, 2016). Questionnaire responses were collected from July 25, 2020 through September 15, 2020. Completed responses were received from 32 out of 70 potential participants from each of the six participating middle schools. I collected all questionnaire data electronically and kept the data on a flash drive. To maintain alignment with the ethical administration methods of collecting data, the flash drive was kept in a locked drawer in my personal residence only accessible by me (Creswell, 2012). The electronic questionnaire concluded with a final question inquiring if the respondent would be willing to participate in an individual interview to further expand on the topic and provide more insight regarding how professional development opportunities, or the lack thereof, have influenced their implementation of blended learning in their classroom.

Five participants met the criteria to be interviewed. I emailed the eligible participants to request their participation in a virtual interview, but only three responded to schedule a date and time. Each interview participant was identified with a code for the purposes of organization and confidentiality. Each interview was conducted virtually and recorded on Google Meet due to the COVID-19 pandemic. In total, I interviewed three participants using a semi-structured interview protocol consisting of six open-ended questions (see Appendix E). The goal of each interview was to gain a deeper understanding of teacher perceptions of district and/or school professional development that have influenced the implementation of blended learning in their classroom. The interviews took approximately 20 minutes each and allowed the participants to further expand on

their answers. Afterward, I transcribed the recording of each interview and emailed the transcriptions to each participant as a means of member checking to clarify and ensured understanding of each response. Finally, I examined the transcriptions several times before I began coding the transcribed information to analyze the data.

Methods of Analysis

I utilized a qualitative interpretive design, which was guided by three research questions, to examine middle school teachers' perceptions of district support for implementing blended learning in their classroom. I conducted the data collection in a school district in Eastern Tennessee and used an electronic questionnaire that consisted of open-ended and closed-ended questions. As the participants completed and submitted the questionnaire, each respondent and each school were assigned a purposeful code for the purposes of organization and confidentiality. As Creswell (2012) suggested, I read the responses to the questionnaire several times to ensure understanding of the data. In addition, I transcribed all recorded interviews and then organized the information according to interview questions and research objectives.

Open coding was utilized to examine, break down, and compare the data from the questionnaire and interviews. I established codes based on recurrent responses to the questions on the questionnaire and interviews and then used pattern coding to identify common themes and recurrent ideas (Merriam & Tisdell, 2016). Themes were then identified from the previously developed patterns specific to each research question until saturation of categories for each research question existed (Merriam & Tisdell, 2016). This process allowed me to

identify teacher perceptions of school district support offered for implementing blended learning, triangulate data more effectively, and establish a link between the analyzed data and the research questions.

Trustworthiness

This study involved teachers' perceptions regarding the district and/or school professional development offered for implementing blended learning. According to Merriam and Tisdell (2016), securing validity and reliability in a qualitative research study required conducting the research in an ethical way. Reliability refers to the scope in which the study can be replicated as well as the trustworthiness of the procedures and findings (Merriam & Tisdell, 2016). I created thick, rich descriptions of the settings and the findings of the study to demonstrate credibility with the study. Reliability of the web-based questionnaire as an instrument of data collection used in this study was strengthened by the fact that the participants had extensive familiarity with this format of data collection. The district and schools under study regularly used web-based survey links such as Google Forms as data collection instruments. According to Creswell (2012), web-based questionnaires came with some concerns, such as security issues, low response rates, frequent email address changes, and technological issues. I addressed possible security issues by using Google forms, a secure survey website, and the questionnaire was password protected and only accessible by the owner of the account, which limited access to data via username and password combinations.

In qualitative research, the researcher was the greatest threat to credibility due to the type of procedures employed, data collection methods, and the way

data were analyzed and interpreted (Merriam & Tisdell, 2016). I served four schools with middle grades, and to mitigate any issues with reliability and trustworthiness, those schools were not included in this study. This further alleviated my potential bias during the coding and development of themes and reinforced the dependability of the data collection methods. I continuously self-evaluated for potential bias and the honest reporting of the data collection methods and analyzation to mitigate this threat (Merriam & Tisdell, 2016).

According to Creswell (2014), pilot testing was relevant and meaningful to improve questions and validity of an instrument. For this study, I utilized convenience sampling of three teachers who served as curriculum and technology coaches to conduct pilot testing of the questionnaire prior to data collection. These participants were certified teachers who also had knowledge of blended learning. Their responses were not included in the data. Each pilot test participant received an email that inquired about assistance in participating in the pilot test. I planned to use any feedback from the pilot test participants to make necessary revisions to the wording of the questions or any formatting changes to ensure the data collected would be appropriately aligned to the research questions. The pilot participants did not identify any necessary revisions or suggest any changes.

Participants agreed not to discuss the information contained in the questionnaire and the interview with other participants to mitigate any potential influence or bias. All participants were provided with the same questionnaire and could stop participation at any point. In addition, all interview participants were asked the same questions and could withdraw from the study at any point. During data collection I sent a reminder email to all potential participants without

targeting the non-respondents to ensure confidentiality of questionnaire responses (Denscombe, 2007). Interviews were used to gain teacher insight without peer influence and questionnaire results were used to expand the pool of teachers. I regularly restated and summarized interview responses to verify a correct interpretation of all statements. I applied member checking to demonstrate accuracy and trustworthiness of each interview (Merriam & Tisdell, 2016). Following the completion of interviews, I emailed the transcribed data to each participant so they could verify their responses to make certain that the data collected was an accurate record of the participants own perspectives of teacher's perceptions of professional development offered for implementing blended learning. The use of member-checking along with the open-ended questions allowed participants the opportunity to produce authentic and dependable responses, which they could have expanded upon as needed (Merriam & Tisdell, 2016).

Through data collection of the questionnaire responses and the interview responses, open coding and pattern coding was utilized to identify and analyze themes. With each data collection procedure, analysis came in the form of review of questionnaire response data and review of interview responses. The triangulation of data was derived from my use of multiple data collection measures and data collection from multiple sources. To achieve triangulation, I analyzed the data multiple times. For example, I first analyzed the questionnaire responses looking for teacher perceptions of district and/or school based professional development for blended learning. I used the same process to analyze the interview data for teacher perceptions of district and/or school based

professional development for blended learning. Additionally, I analyzed data for evidence of teacher's perceptions of the most effective professional development for implementing blended learning and evidence of whether those perceptions influenced the implementation of blended learning in their classrooms.

Triangulation supported dependability through the collection of data from multiple sources and multiple sites, including questionnaire responses and interview responses that provided data and insight into teachers' perceptions of district and/or school professional development. The triangulation of response data from the questionnaire and the interviews led to trustworthy and valid findings (Merriam & Tisdell, 2016).

Limitations and Delimitations

According to Creswell (2012), limitations of a study were defined as possible problems or weaknesses with the study that are identified by the researcher but that the researcher does not control. One limitation was the low responses from the web-based questionnaires. I sent the questionnaire to potential participants multiple times to illicit higher response rates, however, whether or not participants chose to complete the questionnaire was beyond my control as the researcher. Another limitation was frequent changes in teacher email addresses, so I obtained teacher email addresses off of the school website to mitigate any issue with email address changes because the website should have had current teachers email addresses. Conducting the interviews on Google Meet due to the COVID-19 pandemic could have had an impact on the number of participants willing to participate in an interview. At the time I conducted the study the school district closed schools in response to the COVID-19 pandemic, which may have

limited prospective participants' ability to respond or possibly influenced their motivation to participate in the study. Despite these limitations, I maintained the study's findings were valuable to research regarding teacher perception of district support for implementing blended learning.

Delimitations are the factors that limited the scope of the study but were chosen by the researcher (Creswell, 2012). Since I chose to utilize a web-based questionnaire this was a delimitation of the study. The decision to conduct the study during the end of the summer and beginning of fall was also a delimitation of the study. This time of year was chosen so teachers could reflect on the past school year when responding to the web-based questionnaire, but it is also a time when contacting teachers was more difficult due to their preparation for the upcoming academic year.

Narrowing the study to include only teachers of 7th and 8th grades to fill the gap in literature was also a delimitation of the study. Another delimitation was the criteria chosen for possible interview participants, which narrowed the potential pool of participants. While the inclusion of other grade level teachers would have provided a deeper, more complete picture of teachers' perceptions of professional development for blended learning implementation across grade bands, the data obtained from the qualifying 7th and 8th grade teachers was important evidence that provided credible findings specific to the middle school level. Despite these delimitations the findings of this study remained relevant to districts, schools, and teachers.

Assumptions of the Study

Assumptions in a qualitative study were what the researcher believed to be true going into the study including the relationship the researcher had with the topic being studied (Merriam & Tisdell, 2016). I made three major assumptions. One assumption made was the participants believed blended learning was an important topic and could benefit their instructional practice and their students. Another assumption was the participants had the appropriate knowledge to discuss blended learning. It was also assumed participants had the appropriate knowledge to discuss professional development. I also assumed all respondents were truthful in their responses on the questionnaire. There was no evidence within the data that participants who completed the questionnaire and individual interviews answered dishonestly or attempted to be deceitful.

Summary of Methodology

Middle school teachers were invited to participate in this study that focused on examining their perceptions of district and/or school professional development for implementing blended learning and to what extent those perceptions influenced the implementation of blended learning in their classrooms. I developed a questionnaire and included questions that allowed for participants to reflect and expand upon their experiences with given opportunities from the school district for implementing blended learning. Participants were then asked to complete individual interviews, which allowed for further explanation and description of participant experiences and perceptions of implementing blended learning. I collected the qualitative data and utilized the data to discover any patterns and themes related to teachers' perceptions of support offered by the

district for implementing blended learning and the influence of those perceptions upon classroom practice. The analyses and results of the study are presented in the next chapter.

Chapter IV: Analyses and Results

Educators, schools, and districts have been constantly challenged to differentiate learning for their students, so more and more schools, have incorporated a blended model of online and face-to-face instruction, which has led to an evolution in the way teachers teach (Fazal & Bryant, 2019; Lewis & Dikkers, 2016). Teachers with years of experience in brick-and-mortar schools have been confronted with adapting their instructional approaches to integrate technology into their teaching (Lewis & Dikkers, 2016). Finding ways to integrate technology that was already embedded in the lives of school-aged youth, enabled opportunities for classroom activities that supported learner engagement as well (Lewis & Dikkers, 2016; Luo & Murray, 2018).

The purpose of this study was to investigate middle school teachers' perceptions of district and/or school professional development opportunities offered for implementing blended learning and to what extent, if any, these perceptions influenced their own implementation of blended learning in the classroom. The majority of extant literature focused on blended learning in higher education and adults. Information obtained from this study may help districts, schools, and educational leaders develop effective professional development opportunities for implementing blended learning in the middle school classroom.

I utilized a qualitative interpretive design, which was guided by three research questions, to examine middle school teachers' perceptions of district support for implementing blended learning in their classroom. A clarification of the emergent themes derived from questionnaire responses and individual

interviews, the relationship between those emergent themes and the research questions, and the results and analysis are presented in this chapter.

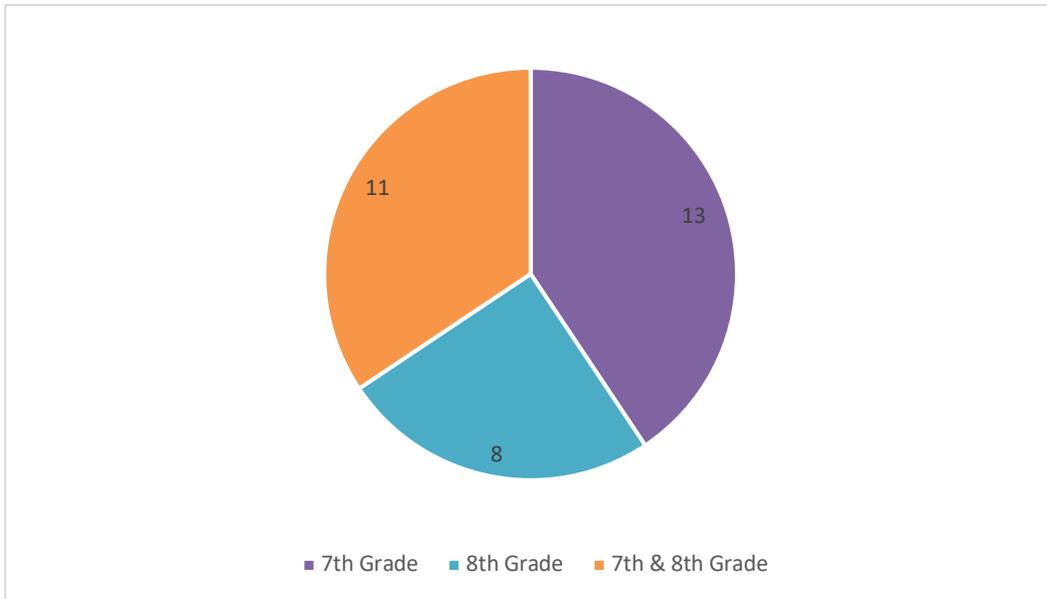
Data Analysis

Qualitative data analysis and data collection occurred simultaneously, and the meanings were likely not clear until data collection ends (Merriam, 2001). I used questionnaires and interviews for this study, which were designed to obtain open and thoughtful responses from participants. Thirty-two teachers, from among the six participant schools, completed the questionnaire. Respondents included 11 English language arts teachers, eight math teachers, five social studies teachers, eight science teachers, and one teacher who did not indicate their content area. As the participants completed the questionnaire, I assigned each respondent and each school a code for the purposes of organization and confidentiality. I referenced each response applying the following format and abbreviations: ELA for English language arts, MT for math, SC for science, and SS for social studies. The numbers 1-11 indicated the number of participant responses per content area. For example, the fifth ELA teacher that responded to the questionnaire was listed as ELA 5.

After I analyzed the data gathered from the teacher questionnaire, responses to question three indicated 13 respondents taught 7th grade, eight respondents taught 8th grade, and 11 respondents taught both 7th and 8th grades (see Figure 1).

Figure 1

Grade(s) Participants Currently Taught



Of the 32 responses, three participants taught 0-3 years within the school district, 15 participants taught 4-10 years within the school district, seven participants taught 11-15 years within the school district, and seven participants taught 16+ years within the school district.

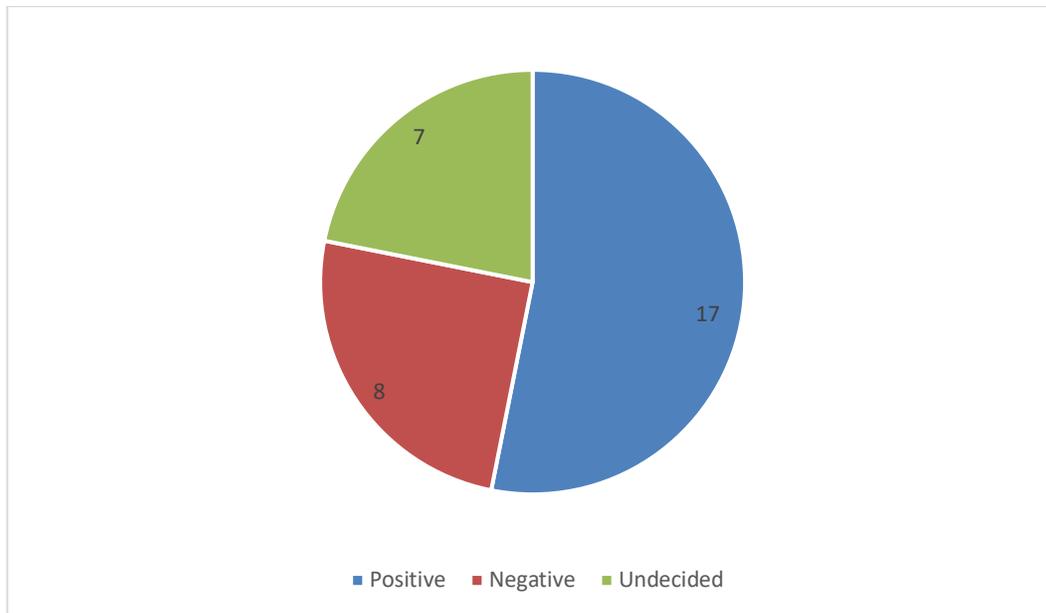
Participant data from question six revealed four participants taught 7th-8th grades for 0-2 years, 11 participants taught 7th-8th grades for 3-5 years, eight participants taught 7th-8th grades for 6-8 years, three participants taught 7th-8th grades for 9-11 years, and six participants taught 7th-8th grades for 11+ years.

Questionnaire results provided information regarding teachers' understanding of blended learning along with their perceptions of their experiences with professional development on blended learning. The specific information gathered from the two data sources was reviewed for the emergence of dominant categories and themes that included positive perceptions and negative

perceptions of professional development on blended learning as well as explanations related to the influence of their perceptions (see Figure 2).

Figure 2

Overall Perceptions of Professional Development on Blended Learning



I interviewed three teachers from three different middle schools that met the pre-determined criteria. Each of the interview participants were certified teachers working for the Eastern School District (pseudonym). The participants included two 8th grade English language arts teachers and one 7th grade social studies teacher. Of the three interview participants one English language arts teacher taught 7th-8th grades for 6-8 years, the other English language arts teacher has taught 7th-8th grades for 3-5 years, and the social studies teacher has taught 7th-8th grades for 16+ years. Two female participants and one male participant completed the individual interview. The interview participants all reported a strong level of comfort implementing blended learning in their

classroom, which made them suitable candidates for interviews because it was anticipated the self-reported comfort level allowed for more meaningful responses to the interview questions. Interviews provided additional detailed information regarding experiences with professional development for blended learning and their perceptions regarding such experiences. Additionally, the interviews provided detailed information about specific examples of professional development experiences as well as teacher reflections on how attending those professional development opportunities influenced the implementation of blended learning in their classrooms.

After the collection of questionnaire responses and interview transcriptions the data was reviewed for the emergence of dominant categories and themes. I recorded the responses to each teacher questionnaire and interview on a separate document, utilizing open coding and pattern coding, until saturation occurred to arrive at developed themes. From this analysis, I found answers to the study's three research questions and identified an additional important finding to the study, which was the overall lack of teacher understanding of the meaning of blended learning. Interestingly, this important finding emerged throughout my data analysis. When the term blended learning was presented on either the questionnaire or during the interviews, participant responses most frequently focused on a technology tool and participants did not convey an accurate understanding of blended learning.

Research Questions

I created three research questions for this study that examined middle school teachers' perceptions of district and/or school professional development

for implementing blended learning and to what extent those perceptions influenced the implementation of blended learning in their classrooms. Several themes emerged after analyzing the questionnaire and interview responses through open coding, pattern coding, and developing themes. In multiple readings of the questionnaire responses and interview transcripts, words that corresponded to the research questions were examined, analyzed, and compared as an initial iteration of coding. Labels for chunks of data were created based on recurrent responses on the questionnaire and interviews and the data were evaluated for core themes. As I worked through the coding process, relevant themes aligned to the research questions became evident. The data collected in this study provided the rich, contextual data necessary for the purpose of the study.

Research Question 1

What are middle school teacher perceptions of district-based and/or school-based professional development for classroom implementation of blended learning?

Research question 1 (RQ 1) was supported by questionnaire questions 5, 6, 10, 12a, 12b and individual interview questions 5 and 6. I implemented a qualitative study format and utilized a teacher-specific questionnaire, which allowed for the collection of data that included the direct words of the respondents and opportunities for respondents to expand upon their responses. Following the completion of the teacher questionnaires, I compiled the respondents' answers to questions 5, 6, 10, 12a, and 12b from the questionnaire and interview responses to questions 5 and 6 to identify the patterns among responses.

First, I utilized open coding to examine, analyze and compare the data from the questionnaire and the interviews. Then, I created tentative labels for chunks of data based on recurrent responses to the questions on the questionnaire and interviews in the first iteration of coding. I coded the responses from the questionnaire and interviews into eight open codes in the first iteration of coding (see Table 1).

Table 1

Coding for Research Question 1

Open Coding research question #1	Pattern Coding research question #1	Theme Development research question #1
Google Apps Training	Technology training on specific apps	A lack of understanding
Finding PD on their own, personalized to them. PD, books, Blogs.	Alternatives to District/School PD	Not applicable PD
PLC meetings	Self-motivated to learn/ Personalized PD	On my own
District level PD		
Blended Learning Conference		
Professional Development Workshops		
Outside of school/district PD opportunities		
Specific technology training on apps		

I categorized the open codes of *Google Apps Training and technology training on specific apps* to the pattern code of technology specific training because these two open codes represented responses from participants about specific technology training, for example, Google drive training and Google Docs

training. I categorized the open codes *outside of school/district PD opportunities* to alternatives to district/school PD. I categorized the open codes of *finding professional development on their own, personalized to them; PD, books, blogs PLC meetings, district level pd, blended learning conference* to the patterns of self-motivated to learn and personalized pd. Next, I conducted pattern coding and identified three common themes and ideas.

From the developed patterns, I developed themes specific to each research question until saturation of categories for each research question existed. Through the data analysis process of this study, it became clear that the participants' perceptions of professional development went beyond the frequent complaints of non-personalized professional development opportunities. Correia (2016) explained teacher attitudes and beliefs formed from their experience with educational technology contributed greatly to the effective adoption and integration of blended learning. Three broad themes emerged from questionnaire responses and interview responses relating to RQ 1.

A lack of understanding. In identifying the first theme from data analysis, several responses on the questionnaire conveyed teachers thought they had attended a district-based and/or school based professional development focused upon blending learning, but in actuality their responses were not professional development opportunities on blended learning. Blended learning is defined as the combination of face-to-face learning and internet technology in a way that is not simply an addition to the existing method of teaching, but rather integrated with existing methods of teaching (Garrison & Kanuka, 2004). Of the 64 combined responses to question 5 and question 6 on the questionnaire, over

50% of responses listed attendance at professional development on a specific technology tool (Google Apps, Google Forms, EdPuzzle, Nearpod).

Twenty-one of the 32 participants indicated they had attended a district or school professional development on blended learning; however, analysis of the questionnaire responses indicated the lack of knowledge of blended learning because out of the 21 responses only seven participants provided a response to questions regarding district or school level professional development opportunities that revealed an accurate knowledge of the definition of blended learning. Only 7 of the 32 total participants accurately identified a professional development focused on blended learning. For example, Participant SS 1 stated, “I attended a session after school that gave an overview of blended learning.” Participant MT 4 responded by stating, “The only blended learning PD I have attended at the school was presented by two teachers, they taught us what blended learning is and gave us some blended learning strategies.” Participant SC 5 stated, “I attended the Blended Learning Summit a few summers ago and that helped me to understand blended learning.” Participant SS 2 responded with, “Some teachers at my school presented about blended learning after school.” Fourteen of the 21 participant responses listed attendance at professional development on a technological tool rather than attendance at professional development on blended learning. The following are examples of questionnaire responses indicating attendance at professional development on a technological tool, MT 2 responded by stating, “peardeck and kahoot.” Participant SS 4 responded by stating, “Google classroom.” Participant ELA 8 responded with, “Google forms and Skyward training.” Participant MT 8 responded by stating, “Google training.” Participant

MT 7, responded by stating, “G Suite training and google apps training.” The importance of this data is the participants named specific technology tools, which reflected a lack of understanding of the definition of blended learning. Out of the 32 responses, 11 indicated they had not attended any professional development at the school or district level. Participant responses did not reflect an understanding of the definition of blended learning.

Interview responses also reflected a lack of understanding regarding the meaning of blended learning. Teacher A stated, “Probably the first experience was the Google the G Suite training.” Teacher B stated, “I participated in the G Suite training a year or two ago and I also attended some other app trainings a while back too.” Similarly, Teacher C stated, “So far I haven’t really attended much. I’ve been to the Google Classroom training a couple years ago and that’s it actually, I don’t think I had any other experiences.” Both the questionnaire and interview responses underscored teachers’ perception of professional development opportunities for blended learning as focused on specific technology tools as an additive to classroom instruction rather than the authentic integration of technology to support instructional practice.

Not applicable professional development. The second theme from data analysis that emerged was the professional development was not applicable. This theme is comprised of the open codes *PLC meetings*, *district level PD*, *outside of school district PD opportunities* and the pattern codes of *personalized PD* and *alternatives to district/school PD*. In response to questionnaire question 12, How much experience would you say you have had using blended learning with your

students? Twenty participants selected I have a lot of experience and 12 participants selected I have no experience.

Twenty participants selected I have a lot of experience on the questionnaire. Those 20 participants were presented on the Google Form with question 12b, which asked them to describe the district, school, or external professional development experiences that have supported their classroom implementation of blended learning. The 20 participants that selected “I have a lot of experience” in response to question 12b were asked to describe the experiences that supported the participants’ implementation of blended learning in the classroom. Participant SC 3 responded to question 12b stating, “Attending professional development opportunities aimed at explaining various blended learning strategies have been helpful.” MT 8 responded to 12b, “working with other teachers has been beneficial and researching blended learning on my own time has helped me a lot.” ELA 10 responded, “I have been reading on my own time about blended learning.”

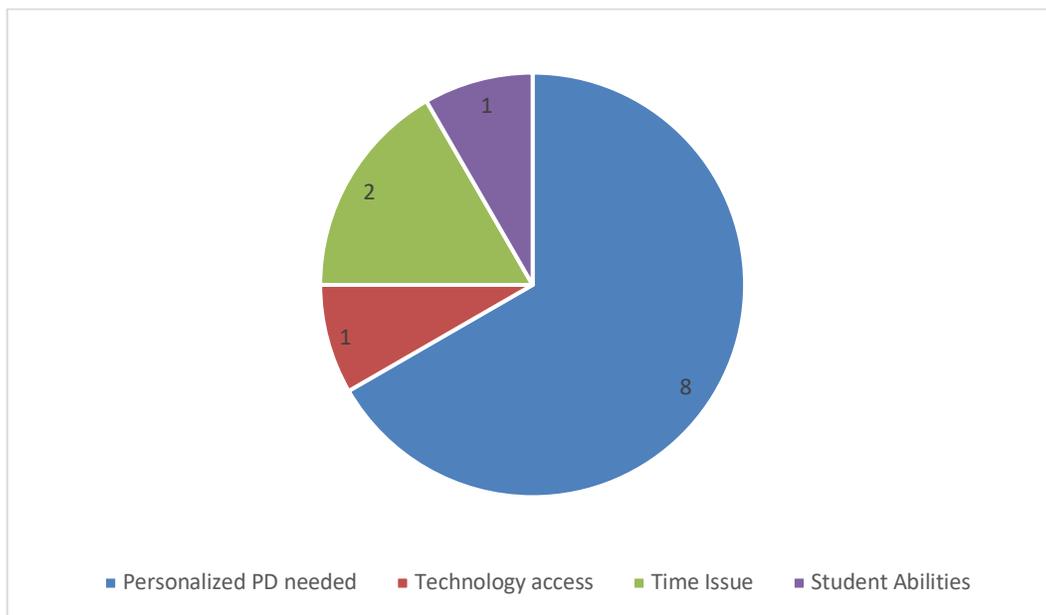
It was important to note while these 20 participants indicated they had a lot of experience implementing blended learning in their classroom several responses again focused on training related to specific technology tools and other professional development opportunities rather than blended learning. For example, MT 1 responded by stating, “I attended Google Classroom at the district level.” SS 3 responded by stating, “Nearpod and Masteryconnect trainings at my school.” Similarly, ELA 4 responded by stating, “At the school and district, I attended training on Google platforms.” SC 2 responded by explaining, “I am getting my masters right now and that has expanded my knowledge of technology

a great deal.” ELA 5 responded by stating, “I have attended training on Google classroom.”

The 12 participants that selected “I have no experience” on the Google Form were presented with question 12a, which asked participants if they had attended professional development at the school level and/or at the district level on blended learning, have they had time to implement blended learning in their classroom, are there any barriers that kept them from implementing blended learning, and to describe an ideal situation in which they would feel comfortable blending their classroom. Of the 12 responses to question 12a, eight responded in favor of needing more personalized professional development training on blended learning (see Figure 3).

Figure 3

Responses Regarding Barriers Affecting the Implementation of Blended Learning



Participant SS 5 argued, “Time is an issue for me. There just doesn’t seem to be enough time in the day.” SC 6 responded, “Lack of knowledge and I need pd

that I need not chosen for me by my school or district.” SC 4 stated, “I am not comfortable enough with it.” MT 2’s responded by stating, “The training I have attended is above my level, I need a training that is at my level.” ELA 1 responded, “I have tried to implement several apps, but I feel very limited in my knowledge of them. I wish I could have some one-on-one training.” Participant responses indicated the barriers they experienced ranged from lack of time to implement what they learned from professional development to their perception of their own level of comfort implementing blended learning as a barrier.

Interview responses also supported the need for personalized professional development for teachers.

Teacher A stated the following:

I just think the district needs to relook at what we're doing on in-service days and not try to jam pack a hundred different things into an in-service day. If we're going to spend the time presenting on a blended learning subject then, let us have time to learn and practice it. When you've got people there, that know what they're doing and can help you so that you can make that transition and actually try to start implementing it in the classroom. I think that we just do too much sometimes and then we don't really understand or feel comfortable with implementing it.

Teacher B stated the following:

I guess the culmination of this year and being thrown from the pan to the fire with warm bodies in your classroom and remote learners at the same time. And I was not prepared even though I thought I was prepared. I thought I’m one of the people in this I’ll be good. It’s going to be fine. It’s

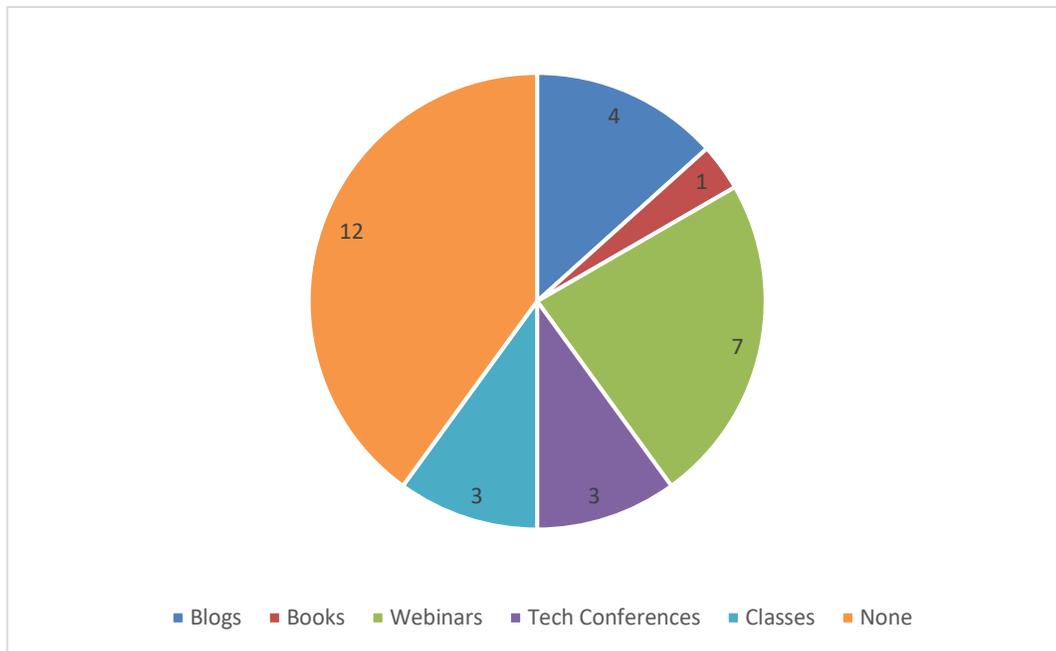
not going to be terrible. I really don't know what pd would have prepared us for this.

Teacher C stated, "Maybe some more training on the different programs our district chooses and why they chose those programs. Also, more pd on how to best use the online syllabus."

On my own. It was interesting to note 18 questionnaire responses and all three interview responses explained how they spend their time outside of school researching blended learning and taking it upon themselves to learn more about blended learning. This theme is comprised of the open codes *finding professional development on their own, blended learning conference personalized to them; PD, books, blogs* and the pattern codes of *self-motivated to learn* and *personalized PD*. I categorized the open codes *PLC meetings and district level pd*. With the distinct indication of teachers using time outside of the school day due to a heavy workload to learn about blended learning, the theme of *on my own* emerged (see Figure 4).

Figure 4

External Professional Development as Discussed by Participants



Participants expressed how they have spent time outside of school learning about blended learning. For example, MT 4 stated in the questionnaire, “I attended a technology conference on my own.” Similarly, MT 8 stated, “I have researched on my own and read a lot to try to learn new ways to integrate technology.” SS 4 stated, “I watched a few webinars this summer to try to understand blended learning better.” SS 3 stated, “I have done online training for edpuzzle and some other technology tools, so I can integrate them in my classes.”

Furthermore, in addressing whether or not the interview participants have spent time on their own gaining knowledge about blended learning and if so, how does that time compare to what the district offered?

Teacher A explained the following:

I would say that I have probably spent far more of my own time outside of the school day, learning things related to blended learning. I've read a couple of different books talking about different kinds of techniques. So, I'm spending probably, three or four times as much time on my own trying to learn as opposed to what I'm getting offered at school or from the district. And I think a part of that is sometimes it's just a scheduling issue. Sometimes we have that challenge on in-service days because we are a K-8 school. How do you figure out in-service? That's going to be great for an eighth-grade teacher, but also a kindergarten teacher so, sometimes I think it's probably not great for kindergarten or eighth grade. It kind of defaults more towards the middle and that's just the nature of the beast. I think in terms of where our school is set up right now. My outside time is probably the most helpful to me.

Teacher B stated the following:

Typically, when I do any kind of blended learning stuff at our school. It's just me and listening to the person teaching us. I've done a lot outside of school. Something that has impacted me a lot was the Ditch the textbook Summit and watching those videos. Those have been very helpful. They've led me to read Don't ditch that textbook. And just some other research kind of things, but those have been completely on my own not school-based. Typically, when I do any kind of blended learning stuff at our school. It's just me and listening. I feel like when I've done the stuff outside of the school setting the learning is on me. And blended learning, it's what I want to learn.

Teacher C stated the following:

And just some other research kind of things, but those have been completely on my own not school-based. I would call it more efficient for my learning style maybe or maybe my learning pace compared to the Google Classroom training which I like was very slow and I could have learned it more quickly, but I totally understood why they did it at the speed they did it. Whereas when I'm doing the seesaw training you know I did it and maybe an hour or two and it was just self-paced, so I was able to learn what I needed to know do the and you know get what I needed and what they wanted me to get much more quickly. Because it was self-paced. Yes. efficient is the best word. More efficient and at the same time. I don't know what I need to know. It would be nice to have somebody kind of point out some new things that I'm having currently learned about or you know.

The emergence of this theme suggested that middle school teachers' perceived district-based and/or school-based professional development for classroom implementation of blended learning to be lacking. Participants expressed they were spending time on their own to further grow their knowledge of blended learning and how this self-motivation to learn has affected their understanding and implementation of blended learning and their implementation.

Research Question 2

What are middle school teachers' perceptions of the most effective professional development they have attended in regard to the implementation of blended learning within their classroom?

Research question 2 (RQ 2) was supported by questionnaire questions 10, 11, 12a, 12b and individual interview questions 2 and 4. Following the completion of the teacher questionnaires, I compiled the respondents' answers to questions 10, 11, 12a, and 12b from the questionnaire and interview responses to questions 2 and 4 to identify the patterns among responses. First, I utilized open coding to examine, break down, and compare the data from the questionnaire and the interviews. Then created tentative labels for chunks of data based on recurrent responses to the questions on the questionnaire and interviews in the first iteration of coding. I coded the responses from the questionnaire and interviews into nine open codes in the first iteration of coding (see Table 2).

Table 2

Open Coding for Research Question 2

Open coding research question #2	Pattern Coding research question #2	Theme Development research question #2
Outside opportunities for PD	Self-Motivation to learn	Outside and personalized PD
Blog's and books found on their own	Personalized PD/Individualized PD	Ineffective and inadequate
Specific classes expanded my technology tool knowledge	Lack of training on the technology	
Self-driven research on personalized PD	Some district opportunities for teachers	
Summer technology conference		
Google Classroom training at the district level		
Specific technology training on apps		
School level training		
One-on-one PD from a colleague.		

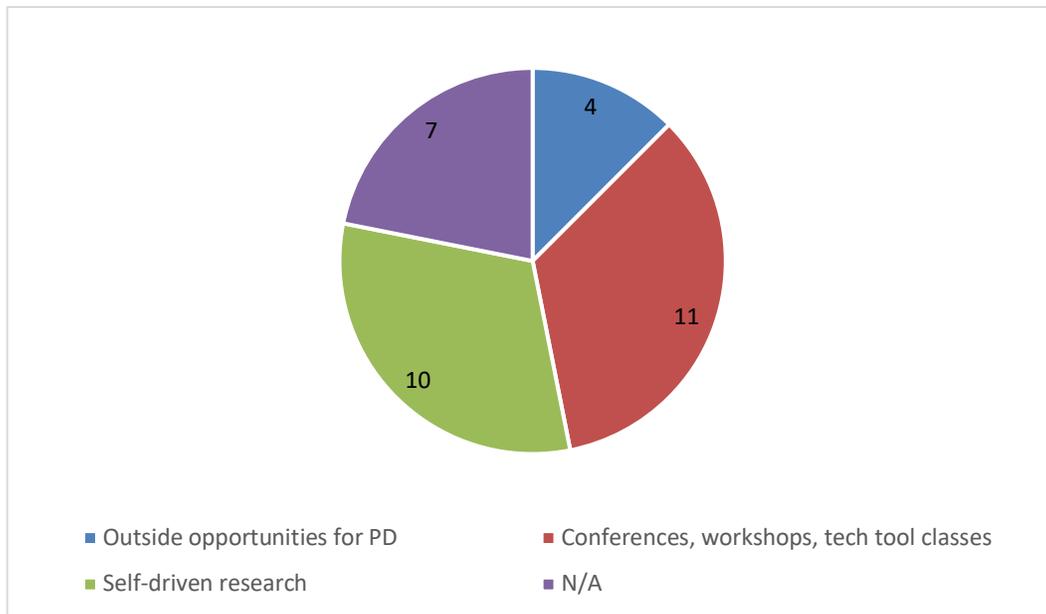
I categorized the open codes of outside opportunities for PD; conferences, workshops, grants, summer technology conference, blogs and books found on their own, specific classes expanded my technology tool knowledge, self-driven research to the patterns of self-motivation to learn and personalized/individualized PD. I categorized the open codes of Google Classroom training at the district level, specific technology training on apps, and school level training, one on one

PD from a colleague to the patterns of lack of technology training on the technology and some district opportunities for teachers. I conducted pattern coding and identified two common themes and ideas. From the developed patterns, themes emerged specific to each research question until saturation of categories for each research question existed. Two broad themes emerged from questionnaire responses and interview responses relating to RQ 2.

Outside and personalized professional development. The first theme from data analysis that emerged for RQ 2 was *outside and personalized professional development*. Through the data analysis process of this study, it became clear the participants' perceptions of the most effective professional developments they had attended occurred beyond the walls of the school. Participants expressed the many different ways they sought out information on blended learning. This theme is comprised of the open codes *outside opportunities for PD; conferences, workshops, grants, summer technology conference, blogs and books found on their own, specific classes expanded my technology tool knowledge, self-driven research* and the pattern codes of *motivation to learn and personalized/individualized PD* (see Figure 5).

Figure 5

Blended Learning Professional Development Participants Found Most Helpful



Participant responses on the questionnaire expressed how they had spent time outside of school seeking out meaningful information on blended learning. ELA 10 stated, “I have spent time reading stuff on my own about blended learning.” ELA 11 stated, “Working with other teachers has been helpful and I have just read and watched what I could to learn more about technology and the best way to integrate in my classes.” ELA 8 stated, “Looking up YouTube videos when I can, that are made by other teachers.” MT 3 stated, “I’ve been to some conferences, and I follow some blogs on blended learning.” Participant ELA 1 responded, “Help from other teachers.” SS 3 responded, “I follow a few blogs on blended learning and I really like those.” SC 1 responded, “I am currently taking classes for my master’s and some of my classes have helped me with technology and integrating it in my classes.” SC 5 responded, “I have read a book by Westin

Kieschnick about blended learning strategies and that was really helpful.” ELA 2 responded, “Ed Tech at Carson Newman, and trial by fire.” MT1 responded, “I have attended a technology conference and there were some sessions on blended learning, those were really helpful.” While the data revealed that the majority of participants perceived their most beneficial professional development experiences regarding blended learning to have occurred outside of the school and district, seven participants responded they had never attended a helpful professional development on blended learning. This underscores the teachers’ perception that school and district professional development alone were insufficient.

Similar to the questionnaire responses, each of the interview participants also expressed how they have sought out information on blended learning outside of what the school and district have offered. Teacher A explained the following:

I’ve been very pleased to have actually done a lot with technology this school year. Especially with social distancing it gives a way for the children to interact with each other and do some different things, but I don’t think I would have taken that plunge to implement it that had it not been for working with another teacher outside of school on my own time.

Teacher B stated the following:

I’ve done a lot of a lot of research on my own. One thing that has impacted me a lot was the Ditch the textbook, Summit. I watched the webinars after the virtual summit was over watching. Those videos have been very helpful. I also have a little of Ditch that Textbook, by the same

person who developed the summit. Those have been completely on my own not from the district or school.

Teacher C stated the following:

Sometimes when I go work with another teacher outside of school, I learn something that I didn't know and that helps me in my own classroom. In fact, I find that happens pretty often because they'll come up with a question that I've never thought of and a lot of times I'll have to research and learn how to use the technology and integrate it with blended learning.

This theme suggested that teachers wanted professional development to fit their needs and to be more personalized to their instructional practices.

Ineffective and inadequate. The second theme that emerged from the data analysis for RQ 2 was the need for more opportunities to attend professional development on blended learning and for those professional development opportunities to be more effective. Participants expressed they felt the professional development opportunities on blended learning were lacking in meaningful information on implementing blended learning. This theme is comprised of the open codes *one on one PD from a colleague, Google Classroom training at the district level, specific technology training on apps, and school level training* to the pattern codes of *lack of training on the technology, some district opportunities for teachers, and heavy workload/little time to implement.*

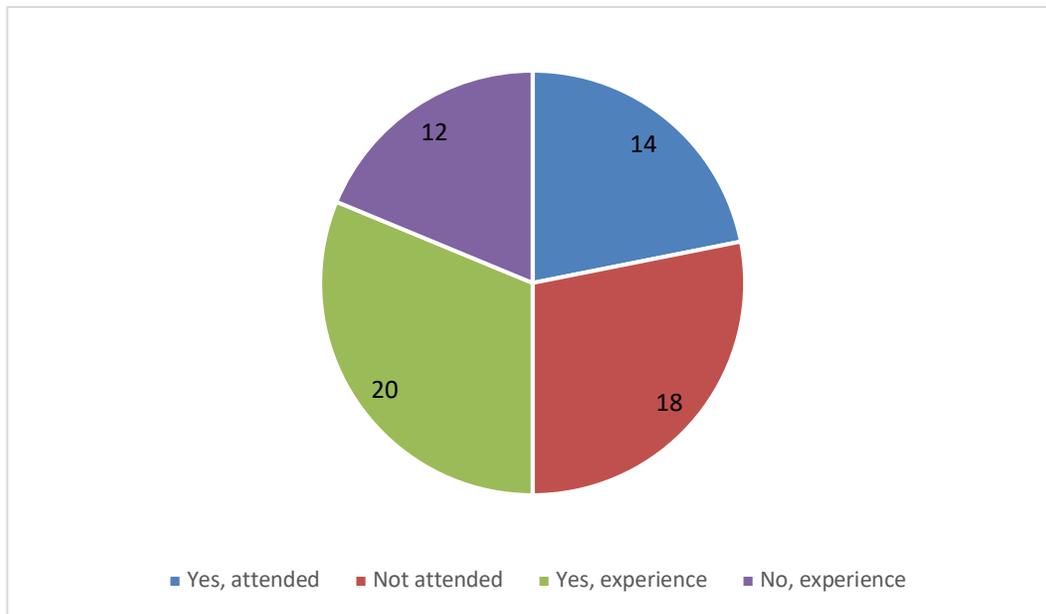
It was important to note of the 32 responses, 18 participants responded they had not attended blended learning pd at the district level and 14 responses indicated they had attended professional development on blended learning at the

district level. The only district level professional development the 14 participants listed was during 2019, for example, questionnaire participant MT 4 responded, “I attended a blended learning district wide professional development.” Participant ELA 3 responded, “Attending the district based blended learning academy in 2019.”

Furthermore, 20 participants responded they had a lot of experience implementing blended learning while 12 participant responses indicated they had no experience implementing blended learning. It was important to note, of the 20 responses indicating they had a lot of experience implementing blended learning, when asked what district and/or school level professional development have supported their implementation of blended learning several responses again indicated trainings not in alignment with the definition of blended learning. For example, ELA 6 responded, “Additional Google training (past) and current support for distance learning.” SS 3 responded, “Different apps or platforms training that the district wanted us to attend.” MT 1 responded, “I attended training on Google classroom about a year ago, but I don’t think it helped me with blended learning.” Participants continually expressed confusion and doubt when referring to their attendance at professional development on blended learning. This was evidence that the professional development they attended was ineffective. Five participants out of the 20 who selected they have a lot of experience implementing blended learning, responded with *None* when asked what district and/or school level professional development have supported their efforts for implementing blended learning (see Figure 6).

Figure 6

District PD Attendance and Blended Learning Experience



Participants also called for more opportunities for professional development on blended learning. For example, participant MT 8 stated, “I don’t think there has been enough opportunities for teachers to attend.” SC 1 stated, “I think teachers desperately need this training.” ELA 2 stated, “Online options are better suited for me, the district trainings have not been helpful in my opinion.” SS 5 stated, “I don’t think there have been a lot of professional development opportunities on implementing blended learning, so I don’t feel very confident when it comes to implement it in my classroom.” ELA 10 stated, “There haven’t really been a lot or maybe I didn’t know what I was attending.” MT 2 stated, “I am intimidated from the training because my technology skills are not very good.”

The three interview participants expressed similar statements regarding inadequate and ineffective professional development on blended learning.

Teacher A stated the following:

I think what happens a lot of times with other trainings is; we have like an hour during an in-service day. And somebody presents to me and then maybe there's 10 or 15 minutes for you to practice with something and then you've got to go to your next session and it's like on a totally different topic. And so, I never really get enough time. I feel like to solidify what I learned very often because there's not enough practice time like supported practice built in-the trainings just before we got out of school this past year. I was actually feeling pretty good about some of the things I had learned and then you know COVID happened and school got out. I didn't use it for a while. So, I had to kind of relearn technology tools and blended learning, before school started this year. The format where we have, some initial instruction and then maybe some time to think about it and figure out exactly how you would use it with like your subject area and then some support practice time the most useful format. The technology tools that I get in-depth training on are the ones I end up using in my classes. The technology tools that I don't get good or in-depth training on usually fall to the wayside. Mastery connect, for example. I think I've set through two or three trainings on it now and I still don't know how to use it because they just show me stuff and then I never really get the time to stick with me like whatever they've shown me in the training the next time I need it I'm like, okay. Where do I start again? I feel like I'm starting from scratch every single time because it just I don't get enough time to practice.

Teacher B stated the following:

It's one thing to say. Oh, I'd love to do that. It's a whole another thing to implement it. A technology tool or site may look really easy on the outside, but then when it comes down to the end of the day when you try to implement something in your classroom, and you have learned it all on your own...you wonder is this actually going to work? Then there is no one to ask because I have taught myself to learn it. I went through the Blended learning cohort for two years and there was a wealth of information with that and you know we were gifted with the opportunity to go to a technology conference (TETC) twice through the district. We did the blended learning summit the first not this last year, but the year before. I think that's about it.

Teacher C stated the following:

I've used what I learned from the Google Classroom training although I felt like it was kind of easy and intuitive. I've used it daily this year and most of the time in previous years. I'd say I feel like for me having training on other technology tools would be beneficial. I think a lot of teachers want that. So far I don't know of much that has been offered. I've been to the Google Classroom training a couple years ago and about it. Actually, I don't think I had any other experiences or know of any that the district has offered.

Through the data analysis process, the theme of inadequate and ineffective professional development emerged. The confusion or misunderstanding about whether or not participants had attended professional development on blended

learning aligned with ineffective professional development. Additionally, participants frequently noted time spent on their own researching blended learning played a more important role to their own professional development than district and/or school professional development opportunities, which reinforces the perception that the PD opportunities provided by the district were also inadequate in meeting the professional learning needs of teachers.

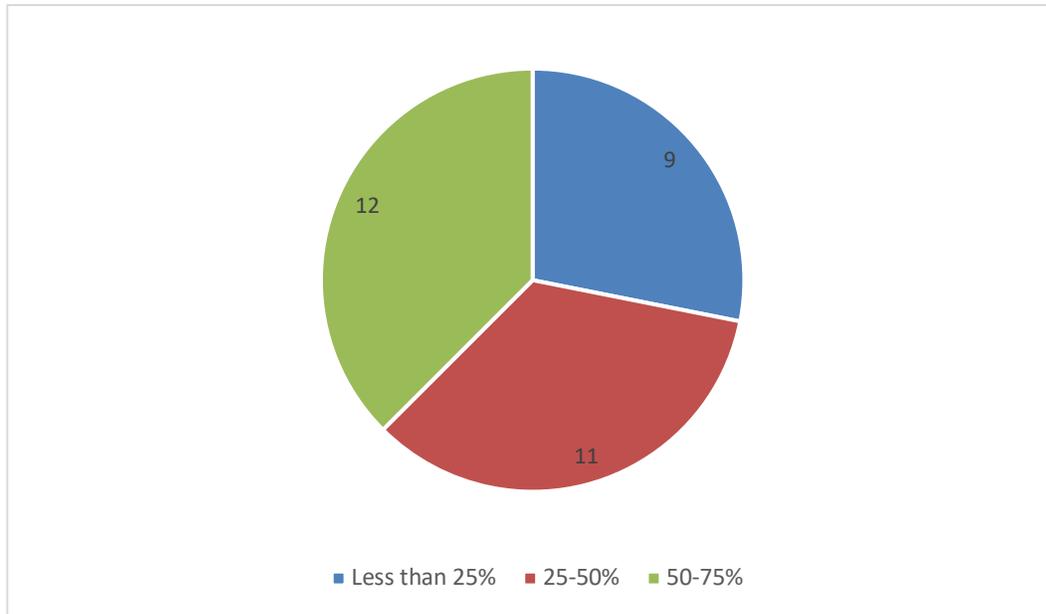
Research Question 3

How do middle school teachers' perceptions of district and/or school based professional development influence their implementation of blended learning in the classroom?

When analyzing data for Research Question 3 (RQ 3) it was revealed over 50% of the responses indicated technology was utilized for academics in their classroom less than 50% of the time. This data indicated a correlation between teachers' perceptions of district and/or school based professional development and how those perceptions influence the implementation of blended learning in their classrooms. Additionally, of the 32 questionnaire responses, 9 responded their students utilize technology for academics (Ex. A space in a classroom or lab in which students work primarily on the computer or mobile device) less than 25%, 11 responded their students utilize technology for academics 25-50% of the time, and 12 responded their students utilize technology for academics 50-75% of the time (see Figure 7).

Figure 7

Time Students Spend Utilizing Technology for Academics



Research Question 3 was supported by questionnaire questions 3 and 7 and individual interview questions 1, 2, 4, and 6. Following the completion of the teacher questionnaires, I compiled the respondents' answers to questions 3 and 7 from the questionnaire and interview responses to questions 1, 2, 4, and 6 to identify the patterns among responses. First, I utilized open coding to examine, break down, and compare the data from the questionnaire and the interviews. Then established codes for chunks of data based on recurrent responses to the questions on the questionnaire and interviews in the first iteration of coding. I coded the responses from the questionnaire and interviews into seven open codes in the first iteration of coding (see Table 3).

Table 3

Open Coding of Research Question 3

Open coding research question #3	Pattern Coding research question #3	Theme Development research question #3
<p>Time needed to practice the technology before implementation.</p> <p>Equitable access to chromebooks/laptops for students</p> <p>Important for teachers to grasp understanding of blended learning for virtual and in/class students.</p> <p>Blended learning training is needed for teachers</p> <p>More than one way to blend a classroom</p> <p>Overwhelmed Perception of PD translated to perception of implementation</p>	<p>Lack of time to prepare</p> <p>Technology access</p> <p>Clear understanding/definition of blended learning</p> <p>Concerned about Technology skills</p> <p>More Training and follow-up trainings</p> <p>Perceived Barriers</p>	<p>Inadequate Preparation/Follow up</p> <p>Technology skills are a factor</p> <p>Perception influences implementation</p>

I categorized the open codes *time needed to practice the technology before implementation* to the pattern of lack of time to prepare. Next, I categorized the open codes *equitable access to chrome books/laptops for students* to technology access. I categorized the open codes *important for teachers to grasp understanding of blended learning for virtual and in class students*, *blended learning training is needed for teachers*, *more than one way to blend a classroom* to the pattern code understanding/definition of blended learning. Then, I

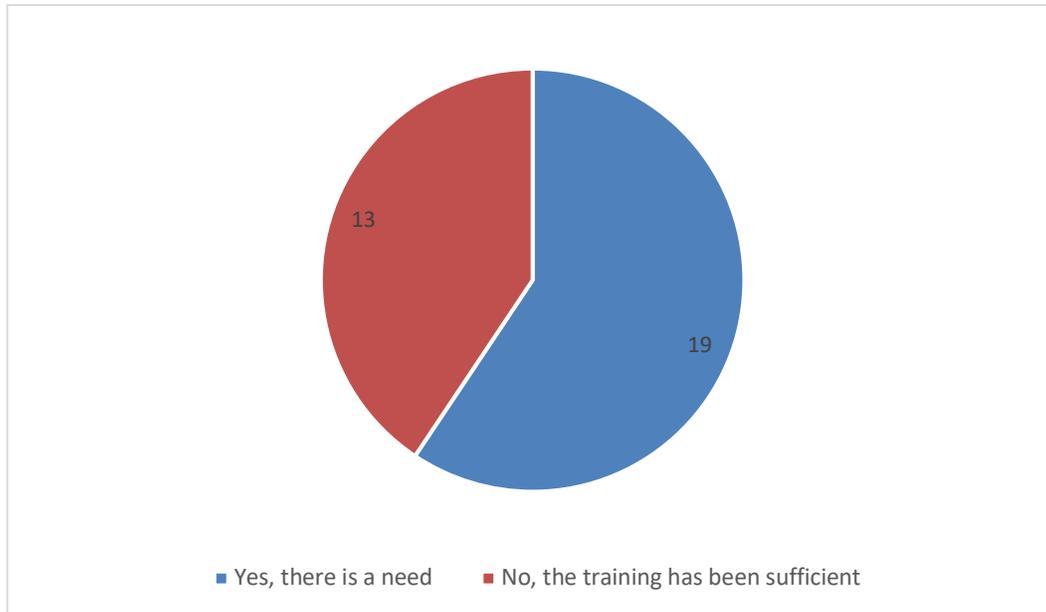
categorized the open code *overwhelmed* to the pattern concerned about technology skills and more training and follow up trainings. I categorized the open codes *perception of PD translated to perception of implementation* to the pattern perceived barriers. I conducted pattern coding and identified three common themes and ideas.

From the developed patterns, themes were developed specific to each research question until saturation of categories for each research question was evident. Through the process of reviewing and analyzing the data participants responses reflected a correlation between teachers' perceptions of district and/or school based professional development and their implementation of blended learning in the classroom. Three broad themes emerged from questionnaire responses and interview responses relating to RQ 3.

Inadequate preparation and follow up. The first theme that emerged from the data analysis for RQ 3 was *inadequate preparation and follow up*. Of the 32 responses, 19 responses from the questionnaire described the need for adequate blended learning training including follow up trainings (see Figure 8).

Figure 8

Adequate Preparation and Follow-up Trainings



These 19 participants expressed a need for more preparation when implementing blended learning including opportunities for follow up trainings. Participant responses reflected a need for blended learning professional development to be meaningful and to be provided with opportunities to further their implementation of blended learning. Participants expressed they wanted professional development to not be a one-time training opportunity. Participants responses included “They are most effective when there is a follow up training after we have had time to try these things in our classrooms.”

SC 2 explained the following:

I feel that there needs to be more follow-up. When you go spend 3 hours one day in June learning something, it doesn't always mean you can confidently implement it in the classroom two months later. There should be biweekly or monthly "tidbit reminders" of how you could use some of

the training material in your class. It is sometimes too much to process all at once.

ELA 1 responded, “Lack of time to fully understand the pd topic has been an issue for me.” ELA 11 responded, “Well, I am not sure my district has done a great job of explaining blended learning, but I have worked with a teacher at my school and that was very helpful.” ELA 10 responded, “There hasn’t been a lot of training offered or maybe I didn’t know what I was attending.”

During the interview with Teacher A responded with the following:

The district needs to relook at what we're doing on in-service days and not try to jam pack a hundred different things into an in-service day so we can have time to learn and understand what they are presenting to us.

Teacher B stated the following:

I have worked with several teachers at my school because it’s a small school, it has usually been me helping other teachers. I think I would benefit and the teachers I work with if our district offered more trainings on blended learning.

Teacher C added the following:

I know some teachers don't use technology as much as others So, they're not as familiar or comfortable with technology that the rest of us might take for granted. because we're using technology more and implementing. Those teachers need more training and maybe even different levels of training, that might be helpful.

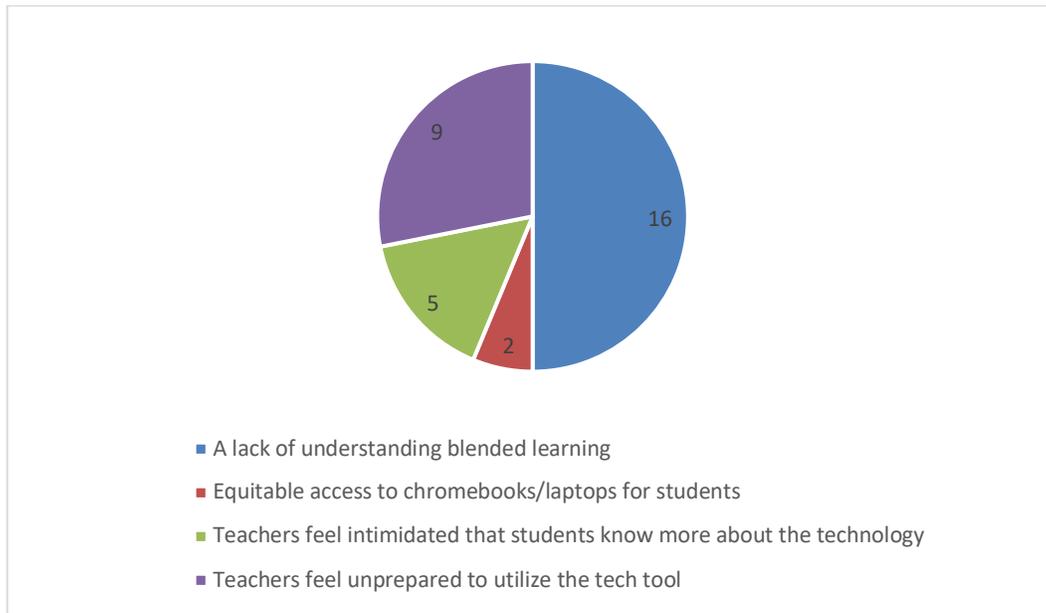
Based on participant responses, there was evidence to support teachers’ perceptions of their professional development opportunities for blended learning

were not adequate enough and they needed follow-up trainings to further support their implementation of blended learning.

Technology skills are a factor. The second theme that emerged from data analysis for RQ 3 was *technology skills are a factor*. It was important to note many questionnaire responses and interview responses explained concerns about utilizing the technology, which included confidence, time, and student access. I categorized the open codes *time needed to practice the technology before implementation, equitable access to chromebooks/laptops for students* to the pattern codes of *lack of time to prepare and technology access* (see Figure 9).

Figure 9

Access to Technology and Perceptions of Technology Skills



Participants were concerned with their lack of technology skills, the students knowing more than the teacher in regard to technology, and lack of time to learn and practice using technology. Sixteen responses explained the participants did not feel confident in their own understanding and implementation

of blended learning. For example, MT 6 responded, “Confidence, blended learning is challenging for me right now, but I plan to learn more about it to build my confidence and to be able to implement it better in my class.” Five responses on the questionnaire expressed concern over their students knowing more than the teacher. For example, SS 4 explained, “I’d use it if I was more comfortable and knowledgeable about it, but my students or some of them know more than I do about the technology.” Nine responses expressed feeling intimidated by what they perceived to be their ability to use the technology. For example, ELA 9 responded, “I don’t feel confident in my knowledge of the technology and blended learning and I just don’t have the time to do anything about that.” MT 2 responded on the questionnaire stating, “My technology skills aren’t as good as other teachers.” Two responses also expressed concerns over equitable access to chromebooks/laptops for students. For example, ELA 1 responded, “I don’t know what to do if students who have no internet connection at home.” Similarly, SS 3 responded, “I don’t even know if my students have internet access at home, so that concerns me.” It was clear based upon the data collected from questionnaires that participants perceived concerns regarding their own technological skill level and student access to be influential to their implementation of blended learning in the classroom. For most participants, this reduced their implementation of blended learning and they perceived school and district professional development to offer little support in addressing such concerns.

All three interview participants also stated concern for the lack of time they have also had in learning about technology as a part of blended learning.

Teacher A stated, “I mean, I still feel like a bit of a novice at the technology aspect, especially when I am learning a new technology tool.”

Teacher B stated the following:

I used to definitely be intimidated by technology at first, but the more we have used technology in my classroom the more comfortable I have felt. It had definitely taken a lot of time to get here though. I think my students will always know more than I do when it comes to technology, so I just have them teach me sometimes.

Teacher C explained the following:

Whenever we get a new tech tool, I always think I need more time to practice it before implementing it, but that never seems to happen. So, a lot of time is taken up in class troubleshooting how to use it for both me and my students.

Based on participant responses, teacher’s perceptions of their own technology skills influenced the implementation of blended learning in their classrooms.

Perception influences implementation. The third theme that emerged from data analysis for RQ 3 was *perception influences implementation*. This theme is comprised of the open codes *perception of PD translated to perception of implementation* to the pattern code of *perceived barriers*. Through this study, it became evident teachers’ perceptions do in fact influence their implementation. Questionnaire responses included the following perceptions about themselves and their perceived barriers to implementing blended learning, SC 4 stated, “Lack of

knowledge and training.” SC 6 stated, “I’d use it if I was more comfortable and knowledgeable about it.” SS 5 stated, “Time is a definite barrier,”

MT 6 stated the following

Confidence, as a first-year teacher, I am already struggling with the differences this year brings, blended learning possess as a challenge to me that I do not feel well prepared for. I plan to have additional training to help build my confidence.

Interview participants further expressed their perceptions regarding their ability to implement blended learning. Teacher A, expressed, “I wish I had more time to study and learn about blended learning. I am not so sure that what I am doing in my classroom is right.” Teacher B admitted,

I know we are our own worst critics, but I would like to participate in more actual application of how to implement blended learning. I mean from the pd I have been too I am just not sure that I am totally comfortable implementing it in my classroom.

Teacher C stated the following:

I need more training and to learn more about blended learning before I feel comfortable implementing it all the time. Plus, our district buys several technology programs for learning, so I really feel that I have to use those first or I will get called out. After that, I just feel overwhelmed and don’t have the energy to learn more about blended learning.

Through this data analysis process, it became clear that teachers’ perceptions of their blended learning knowledge and technology skills influenced their implementation of blended learning. Multiple teachers conveyed either a

lack of confidence in their technology skills or their knowledge of blended learning and some conveyed lack of confidence in both. It became obvious that teachers' perceptions influenced their implementation of blended learning.

Summary of Results

With attention to the three research questions, three overarching findings emerged from the triangulation of data. Through the evaluation of each of the two data sources, two to three themes emerged for each of the three research questions of this study. The themes formed around Research Question 1: *What are middle school teachers' perceptions of district-based and/or school-based professional development for classroom implementation of blended learning?* were a lack of understanding, not applicable professional development, and on my own. Through data analysis, I discovered themes around Research Question 2: *What are middle school teachers' perceptions of the most effective professional development they have attended in regard to the implementation of blended learning within their classroom?* which included outside and personalized professional development and ineffective and inadequate. Data analysis of Research Question 3: *How do middle school teachers' perceptions of district and/or school based professional development influence their implementation of blended learning in the classroom?* produced the following themes: inadequate preparation and follow-up, technology skills are a factor, and perception influences implementation. The questionnaire responses and interview responses of participants revealed the importance they placed on these themes. This led to the discussion of implications and recommendations in the next chapter, Chapter V.

Chapter V: Discussion of the Study

The purpose of this study was to examine middle school teachers' perceptions of district and/or school professional development for implementing blended learning and to what extent those perceptions influenced the implementation of blended learning in their classrooms. Using the adult learning theory framework, I set out to examine and understand any findings that emerged. Data derived from questionnaires and individual interviews was coded and analyzed, resulting in the identification of key themes, which are presented in this chapter, Discussion of the Study.

Previous researchers either included professional development or studied professional development on blended learning as an important component in effectively implementing blended learning in the classroom (Broderson & Melluzo, 2017; Ertmer et al., 2012; Mama & Hennessy, 2013; Mirriahi et al., 2015; Poierer et al., 2019; Somera, 2018). Teachers are a crucial part of the student experience. When teachers are provided with learning experiences themselves and supported in implementing these new experiences their own authority increases (Horn & Staker, 2014). Additionally, middle grades need to be seen as a steppingstone for a secondary and post-secondary education that supports all students in obtaining the schooling and/or career training they will need to fully engage in the opportunities of 21st century America (Balfanz, 2009). This study examined middle school teachers' perceptions of professional development offered for implementing blended learning filling a wide gap in previous research that failed to include the middle school years.

The data collected for this study was provided through rich, thick descriptions by the participants that supported the dominant themes within the literature, and captured the teachers' perceptions of professional development offered for implementing blended learning and the influence of PD upon classroom implementation. The results of this study indicate a correlation between teacher perceptions of district and/or school professional development offered for blended learning and the influence their perceptions have on implementing blended learning in the classroom. I was able to generalize the findings and identify implications including the need for more technology training and for continual support for implementing blended learning. It is necessary for continual professional development to be offered so teachers can learn about the most current blended learning pedagogy and most current technology as well as continuing research on effective professional development models to support teachers as learners (Correia, 2016; Parks et al., 2016).

Results from this study revealed teachers were not always aware if they had attended professional development on blended learning or not. While teachers may have responded they had attended professional development on blended learning, further data analysis revealed participants focused their descriptions of experiences upon attendance at professional development for a specific technology tool rather than professional development for blended learning. Oliver and Trigwell (2005) noted while blended learning has risen in popularity, a clear conceptual understanding of the term is not widely understood and without an understanding of blended learning, there can be no accurate implementation of it. Additionally, based on participants responses, teachers perceived professional

development opportunities have not been applicable to their needs. Participants expressed professional development opportunities were often times directed by the district or school level and did not meet the needs of individual teachers. District, school, and in-service professional development opportunities on implementing blended learning often limits teachers from experiencing a meaningful training and gaining a deep understanding of blended learning. Subsequently, this led to the perception that professional development opportunities were ineffective. Based on the results from this study, I surmised there is a lack of understanding of blended learning and this could be the result of the lack of applicable and effective professional development opportunities for blended learning.

The data that emerged for this study also provided insight into teachers' perceptions of the time they have spent outside of school learning about blended learning. Data analysis from the questionnaire responses and the interview responses revealed participants spent their own time utilizing a variety of ways to learn more about blended learning including reading books, blogs, attending conferences, and other types of self-driven research. Participants expressed time spent on their own played a more important role in forming their perceptions and their understanding of implementing blended learning than the professional development opportunities at the district and/or school level. Thus, classroom implementation of blended learning strategies was more frequently influenced by the participants' self-motivation to pursue external professional development opportunities rather than the professional development offered by the school or district.

Results from this study also suggest teachers' technology skills are a factor in their implementation of blended learning, including the perceptions they have of their own technological skill. It cannot be assumed that because technology is more common in classrooms teachers are more comfortable using the technology. Through this study, I determined teacher described their perceptions of their own technology skills as deficient. Participants expressed concern over their lack of technology skills and through data analysis it was revealed teachers' perceptions of their individual technology skills, influenced the implementation of blended learning in their classroom. With the previous mentioned results from this study taken into consideration, teachers' perceptions of implementing blended learning would be influenced. In attempting to fill a gap in previous research that failed to include middle school teacher's perceptions, I examined middle school teachers' perceptions of district and/or school professional development opportunities for blended learning and how those perceptions influenced the implementation of blended learning. Prior research findings at the elementary level and higher education level found teacher's perceptions of professional development opportunities on blended learning were lacking in knowledge of blended learning, which led to difficulties effectively implementing blended learning in their classrooms (Hartsell et. al., 2010; Larson, 2012; Myzell, 2010). I concluded the way in which the middle school teachers in the Eastern School District perceived blended learning and the professional development opportunities offered at the school/district level were consistent with findings of previous researchers and their studies done at different educational levels.

Implications for Practice

This interpretive qualitative inquiry was guided by three research questions. The findings and conclusions of this study are applicable to the professional development decision making processes of districts and schools. The implications for practice based upon the findings of this study can be achieved at the elementary, middle, and high school level. Based on the findings in this study, teachers need more professional development opportunities to better understand blended learning. One implication to be considered by districts and schools is planning more opportunities for professional development on blended learning that are effective and allow the teachers to have confidence in their abilities to implement blended learning into their classroom. The data showed teachers have a lack of understanding of what blended learning means and providing more opportunities for professional development on blended learning for teachers would also have an impact on their understanding. Districts and schools need to offer teacher's more than one or two opportunities for professional development on blended learning throughout the school year. Additionally, districts and schools need to consider developing follow up professional development opportunities to gauge teachers' understanding of blended learning after they have attended an initial training. Follow up trainings would be beneficial in supporting teachers in their understanding and implementation of blended learning. Districts and schools need to consider how teachers' learning opportunities can be more effectively supported (Darling-Hammond et al., 2020).

Another implication to be considered by districts and schools is while blended learning is not focused on the technology, understanding technology is

still important to teachers. Teachers and administrators seem to be more likely to focus on the technology and the tools rather than the integration. Teachers' perceptions toward the use of technology in their classroom were that of concern, intimidation, and feeling ill prepared. When the delivery of district professional development and teachers' perceptions of said professional development are not aligned, the likelihood that teachers will effectively implement blended learning decreases. Districts and schools should consider developing leveled trainings, so teachers can get what they need based on their level of comfort with technology. This type of training would be beneficial because teachers would be able to attend trainings with peers who are at their same ability level and feel more comfortable about where they are in terms of using technology.

District leaders and school leaders in middle school education may use the findings in this study to evaluate the perceptions of middle school teachers in regard to district and/or school professional development offered for implementing blended learning. Middle school teachers are often departmentalized, teaching classes of the same subject. Providing a variety of opportunities for middle school teachers to learn about blended learning rather than a one size fits all delivery of professional development would more effectively meet the needs of the middle school teacher. For example, opportunities for the observation of other teachers who are effectively implementing blended learning within their school, who teach the same subject, or at other schools across the district. Another option would be for district and school leaders to identify middle school teachers who are effectively implementing blended learning and have those teachers lead fellow middle school

teachers in implementing blended learning by providing clear and concrete examples of what they have done in their own classroom.

Furthermore, training coaches within the district to deliver the content and to continually support teachers in effectively implementing blended learning would also be an implication for practice. Participants specifically expressed often feeling more prepared after working with a colleague in a one-on-one situation, so training coaches to support teachers through the effective implementation of blended learning would offer teachers the chance to work one on one with someone rather than attending professional development where often times there are large numbers in attendance. Consideration of these implications would help to improve not only teacher perceptions of professional development offered for implementing blended learning, but the influence their perception has on implementing blended learning in their classrooms. Districts and schools need to implement these changes to support their teachers in the effective implementation of blended learning. In order to deliver such purposeful professional development opportunities it would be imperative to have consistency and transparency between the district, school, and teachers.

Recommendations for Further Research

Future researchers may build upon the findings of this qualitative study using the data collected. Following the scholarly research already available, future studies upon teacher perceptions of district support for implementing blended learning is warranted. I was able to examine a small sample of teacher perceptions in the region of East Tennessee, but due to the limited sample size, the perceptions of the teachers from the questionnaire responses and the interviews

may not be generalizable across a larger number of participants. Gaining perspectives from a broader population of teachers could provide additional insight for stakeholders who seek to improve professional development opportunities for blended learning. Studies such as this may be used by researchers to identify and understand how districts and schools plan to implement professional development for teachers, but often times the actual understanding of the content is overlooked. I was just as surprised to see teachers seem to think they can implement something in their classroom without a true understanding of what they are implementing. A recommendation for future research would be to examine how districts/schools determine professional development opportunities including how the content is delivered to teachers. Additionally, examining teachers' retention of the content after attending the professional development would be recommended to determine if the ways districts/schools develop and deliver their professional development are effective. Different experiences with blended learning and the outcomes understandably produced differences in the way teachers structured their classes and implemented blended learning (Harbin, 2019). This study may give insight to school and district leaders by providing them with reliable data that can be used to drive the development and delivery of professional development opportunities for effectively implementing blended learning.

An additional question that could be explored is what are teachers' perceptions of the influence of blended learning on student achievement. Student achievement is an important factor in almost every aspect of education and studies have shown blended learning increases student achievement (Hesse, 2017; Luo &

Murray, 2018). The middle school years are often a time when students can easily become disengaged and disinterested in learning, so a specific investigation surrounding the processes used to effectively implement blended learning in the classroom and its positive influences on student achievement and student engagement in middle school may offer additional insight into school and district professional development processes as well as student achievement (Balfanz et al., 2007). Gaining further insight from the teachers would have been helpful for future studies and for districts and school to develop meaningful professional development.

Although I conducted this study with middle school teachers, future research may follow this study or utilize other methodologies in an attempt to add to the lack of research regarding middle school teachers' perceptions of district professional development offered for implementing blended learning. Another recommendation for future research conducted in other similar sized school districts within the same state could add to the transferability of the findings for this study. Future studies could also include comparing and contrasting this study with a study involving elementary teachers or high school teachers as participants. Additional studies that include a variety of grade levels may provide a clearer picture of teachers' perceptions of professional development and how those perceptions influence their implementation of important initiatives in their classroom. Future researchers may also consider utilizing focus groups, larger number of interviews, and surveys to ascertain what teachers' perceptions are of professional development offered for implementing blended learning and what, if any, differences are learned from the study. The findings of this study suggested

the need for further research related to the understanding of blended learning for teachers in regard to the effective implementation of blended learning in their classrooms. Future studies would help researchers in gaining knowledge of how crucial teachers' understanding of blended learning is to the effective implementation of blended learning.

An analysis of the teacher effect data of educators who have expressed a strong level of comfort implementing blended learning compared to teachers who did not express a strong level of comfort implementing blended learning could also provide valuable findings for district and school leaders. Discerning between why a teacher feels a strong level of comfort and why a teacher does not feel a strong level of comfort would provide information for districts and schools to use to drive the development of future professional development. More in-depth research in this area could lead to decisions, which may result in an improvement of both teacher perception and increased effective implementation of blended learning.

Conclusions of the Study

The limited nature of offering professional development for implemented blended learning via district wide and school wide trainings or in-service restricts many teachers from experiencing a quality training and gaining a deep understanding of blended learning. I examined teachers' perceptions of professional development offered for implementing blended learning in an attempt to fill a gap in previous research, which failed to include perceptions of middle school teachers. Within the theoretical framework of the adult learning theory, the purpose of this study was to examine middle school teachers'

perceptions of professional development offered for implementing blended learning. I found while there was some knowledge of blended learning from the response data, the results from the study overwhelmingly showed teachers lack the conceptual knowledge of what blended learning is, which influences their operational knowledge of how to effectively implement blended learning in their classroom.

The findings from this study should be used to spark additional research toward developing professional development opportunities that provide teachers with a better understanding of blended learning. As long as districts and schools provide professional development opportunities that fail to teach what blended learning means then there will be a deficit of teachers who actually understand how to implement blended learning in their classroom. Studies in which researchers examine teachers' perceptions of professional development opportunities for blended learning will always be relevant and needed additions to research in the field of blended learning. Districts and schools must be diligent in their efforts to provide adequate and meaningful professional development for blended learning and ultimately realize the potential influence this has on teacher effectiveness and the academic success of our students.

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Appendix A
Permission Request to District

Dear Assistant Superintendent of Schools,

I am currently in the dissertation phase of my educational doctorate and am seeking teacher input for my qualitative study concerning middle school teachers' perceptions of district/school support for implementing blended learning. The focus of my qualitative study is to answer the following questions:

1. What are middle school teachers' perceptions of district-based and/or school-based support for classroom implementation of blended learning?

2. What are middle school teachers' perceptions of district-based and/or school-based support for classroom implementation of blended learning?

3. What are middle school teachers' perceptions of the most effective professional development in regard to the implementation of blended learning within their classroom?

The research I wish to conduct will involve surveying middle school teachers' through an online questionnaire collecting anonymous responses. I would also like to voluntarily interview middle school teacher participants who are selected based on a voluntary response to a question on the questionnaire. These interviews will be conducted through an online platform and the audio recording will be transcribed. Participation in the online questionnaire and the online interviews will be voluntary and teachers will be provided an informed consent form to sign prior to participation and may stop participation at any time. All identifying information regarding teachers and school names will be kept

confidential. I appreciate your consideration as I research middle school teachers' perceptions of district/school support for implementing blended learning.

Regards,

Jessica Wear-Lincoln Memorial University Doctoral Student

Appendix B
Email to Principals

Dear Principal,

I am currently in the dissertation phase of my educational doctorate and am seeking teacher input for my qualitative study concerning middle school teachers' perceptions of district/school support for implementing blended learning. I have requested and been approved to conduct this study by the district and to contact participants. The focus of my qualitative study is to answer the following questions:

1. What are middle school teachers' perceptions of district-based and/or school-based support for classroom implementation of blended learning?
2. What are middle school teachers' perceptions of district-based and/or school-based support for classroom implementation of blended learning?
3. What are middle school teachers' perceptions of the most effective professional development in regard to the implementation of blended learning within their classroom?

The research I am conducting will involve surveying middle school teachers' through an online questionnaire collecting anonymous responses. I would also like to voluntarily interview middle school teacher participants who are selected based on a voluntary response to a question on the questionnaire. These interviews will be conducted through an online platform and the audio recording will be transcribed. Participation in the online questionnaire and the online interviews will be voluntary and teachers will be provided an informed consent form to sign prior to participation and may stop participation at any time. All

identifying information regarding teachers and school names will be kept confidential.

I appreciate your consideration as I research middle school teachers' perceptions of district/school support for implementing blended learning.

Regards,

Jessica Wear-Lincoln Memorial University Doctoral Student

Appendix C
Informed Consent for Participants

**Middle School Teachers' Perceptions on District Support Offered for
Implementing Blended Learning**

*Information and Consent form (will be in electronic format at the
beginning of the web-based questionnaire)*

As a doctoral candidate at Lincoln Memorial University and a teacher of the Sevier County School System, Jessica Wear is currently collecting data related to teachers' perceptions of professional development and blended learning. The purpose of this research is to determine if there is a relationship between teachers' perceptions of professional development offered for blended learning and the implementation of blended learning in their classrooms.

I am requesting your participation, which will involve you answering a questionnaire. The questionnaire should take you approximately 20 minutes.

Your participation in this study is completely voluntary. If you choose not to participate or to withdraw from the study at any time, there will be no penalty. If at any time you discontinue the questionnaire, your questionnaire will be discarded. Your responses will be kept strictly confidential, and data will be stored in secure compartment files and secure storage location for paper copies. Any report of this research that is made available to the public will not include your name or any other individual information by which you could be identified.

The study is considered a human research project, however, the risk to you for being involved is minimal.

If you have any questions concerning the research study or want a copy of summary of this study's results, please contact Jessica Wear at XXXXXX or jessica.wear@lmunet.edu

This research has been approved by the Lincoln Memorial University's Institutional Review Board. If you have any questions about your rights as a subject/participant in this research, or if you feel you have been placed at risk, you may contact Dr. Kay Paris, Chair of the Human Subjects Committee, Institutional Review Board at (423) 869-6834. Additional contact information is available at www.lmunet.edu/administration/office-of-research-grants-and-sponsored-programs-orgsp/institutional-review-board-irb

BY MARKING THE BOX BELOW, I INDICATE THAT I HAVE READ THE ABOVE INFORMATION AND CONSENT FORM, I CONSENT THAT I AM OVER 18 YEARS OF AGE AND AGREE TO PARTICIPATE IN THIS STUDY.

_____ I AGREE.

Appendix D
Participant Questionnaire

For the purposes of this study blended learning is defined as the combination of face-to-face learning and internet technology in a way that is not simply an addition to the existing method of teaching, but rather integrated with existing methods of teaching(Garrison & Kanuka, 2004).

1. Select what grade you teach.
 - a. 7th
 - b. 8th
 - c. Both 7th & 8th

2. How many years have you been employed as a teacher in the district.
 - a. 0-3 years
 - b. 4-10 years
 - c. 11-15 years
 - d. 16 + years

3. Select what subject(s) you currently teach?
 - a. English language arts
 - b. math
 - c. science
 - d. social studies,
 - e. special area (art, music, computer, P.E.,)
 - f. other

4. How many years have you taught middle school (7th and/or 8th grade)
 - a. 0-2

b. 3-5

c. 6-8

d. 9-11

e. 11 +

5. What professional development on blended learning uses at the district level have you attended, if any?

6. What professional development on blended learning uses at the school level have you attended, if any?

7. Can you tell me about your perceptions and/or feelings on the school and/or district based professional development opportunities for implementing blended learning in your classroom?

8. What percent of time would you say that your students spend utilizing technology for academics? (Ex. A space in a classroom or lab in which students work primarily on the computer or mobile device.)

a. 25% or less

b. 25%-50%

c. 50%-75%

d. 75% or more

9. Explain if this percentage of time, the student's pace, and sequence determined by you or the curriculum? Or is it determined by the pace of the student?

10. What is your understanding of the term “Blended Learning?” If you use blended learning in your classroom, describe what that looks like.

11. What blended learning professional development helped you the most to implement blended learning in your classroom?

12. How much experience would you say that you have had using blended learning with your students?

1. I have no experience

2. I have a lot of experience

(If they select I have no experience, the link will take them to bulleted list in 12a; if they say they do have experience, move onto question 12b)

12a. I have no experience

Have you attended a professional development at the school level on blended learning?

Have you attended any professional development at the district level on blended learning?

Have you had time to work towards implementation of blended learning in your classroom? If so, what have you done so far?

What are some barriers that are keeping you from implementing blended?

Describe an ideal situation in which you’d feel comfortable blending your course.

12b. I have a lot of experience

What district level Professional Development experiences have supported your classroom implementation of blended learning?

What school level PD experiences have supported your classroom implementation of blended learning?

What external Professional Development experiences have supported your classroom implementation of blended learning?

13. How comfortable do you feel about implementing blended learning in your classroom?

Scale 0-Not comfortable

1-Slightly comfortable

2-Moderately comfortable

4-Comfortable

5-Very comfortable

14. If you would like to participate in an interview for the purposes of further explanation on the topic, conducted via Google Meet, please list your name and contact information so I may reach out to schedule the meeting. The virtual interview will take approximately 20 minutes.

Appendix E
Interview Protocol

Candidate Name:

Date of Interview:

Time Interview Began:

Time Interview Concluded:

Participant Pseudonym:

Participant information:

Google Meet-virtual interview

Interview (I):

This interview should take about 20 minutes

Your responses will remain confidential, and your identity will remain anonymous.

You will be provided a digital copy of the transcript of this interview to provide you with the opportunity to check for accuracy and correct any information.

Do you mind if I record the interview?

You may end the interview at any time. Just tell me you want to stop.

Do you understand everything so far?

Do you have any questions?

May we begin?

To better understand middle school teacher's perceptions of professional development for implementing blended learning and to what extent if any their perception impacts the implementation of blended learning, I am gathering data from middle school teachers on this subject. Gathering this data will help inform this study of the perceptions of professional development for implementing

blended learning and to what extent if any those perceptions impact the implementation of blended learning. For the purposes of this study blended learning is defined as the combination of face-to-face learning and internet technology in a way that is not simply an addition to the existing method of teaching, but rather integrated with existing methods of teaching(Garrison & Kanuka, 2004).

Participant (P): Participant affirmation (s)

1. Tell me about some of your experiences with district based professional development opportunities for blended learning.

2. How do you believe these experiences have influenced your implementation of blended learning in the classroom.

3. Tell me about some of your experiences with school-based professional development opportunities for blended learning.

4. How do you believe these experiences have influenced your implementation of blended learning in the classroom.

5. Have you spent time on your own gaining knowledge about blended learning? If so, how does that time compare to what the district offered? To what the school offered?

6. What do you feel has most benefitted your implementation of blended learning? Are there any additional professional development opportunities you believe would have helped you most effectively prepare to implement blended learning?