A NARRATOLOGICAL HEURISTIC CASE STUDY OF TEACHERS TEACHING IN A BLENDED LEARNING CLASSROOM ENVIRONMENT

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by

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NARRATOLOGICAL HEURISTIC CASE STUDY OF TEACHERS TEACHING IN A BLENDED LEARNING CLASSROOM ENVIRONMENT

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ABSTRACT

The purpose of this narratological heuristic multiple case study is to describe the specific components that teachers need in both their knowledge and skills to meet the individual needs of their students in a blended learning classroom. The study was conducted in six schools—elementary, middle, and high schools-- located in a suburban district. Data were collected through semi-structured teacher interviews, classroom observations, and a written narrative created by the participants. For this study, analysis methods involved application of the six phases of heuristic analysis and narrative analysis. Findings revealed the extent to which teachers implemented blended learning in their classrooms and the support they continue to need. Five themes were identified in the data: instructional format, differentiated instruction, data driven instruction, relationships, and professional learning. For the most part, participants were silent about the needs of diverse learners as they address the elements of blended learning. Findings suggested more professional development to address the needs of culturally diverse learners.

APPROVAL PAGE

The faculty listed below, appointed by the Dean of the School of Education, has examined a dissertation titled "A Narratological Heuristic Case Study of Teachers Teaching in a Blended Learning Classroom Environment," presented by Philip Andrew Thies, candidate for the Doctor of Education degree, and certify that in their opinion it is worthy of acceptance.

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CONTENTS

LIST OF TABLES

ACKNOWLEDGMENTS

I have received an incredible amount of support over the last four years from my family, friends, and colleagues in the district, which was the focus of this study. First and foremost, I want to thank my wife Susan. You have been so supportive as I have worked to complete this research study. I am fortunate to have your support and encouragement throughout this endeavor.

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DEDICATION

To my wife, Susan Thies, without whose unwavering support this would not have been possible.

To my parents and parent in-laws for their lifelong belief in my abilities.

CHAPTER 1

INTRODUCTION

> Education doesn't need to be reformed—it needs to be transformed. The key is not to standardize education, but to personalize it, to build achievement on discovering the talents of each child, to put students in an environment where they want to learn and where they can naturally discover their true passions. (Robinson, 2009, p. 238)

An approach that entails transformation for supporting a 21st century learner for helping students discover their true passions is known in the technological world as blended learning. The model of blended learning supports personalized learning, allowing for students to be challenged while working on their own learning paths at their pace (Horn, 2012; International Association for K-12 Online Learning (iNACOL), 2011; Mass, 2012; Staker, 2011). Kish (2015) implied that blended learning empowers students to take ownership of their learning and customize experiences according to their individual needs. Educators must empower learners to learn any time, any place, and at any pace, both in school and beyond (Aspen Institute, 2015). To integrate online and face-to-face education, the blended learning model personalizes the learning for students in public settings. Given these aspects of blended learning, the Christiansen Institute for Disruptive Innovation (2013) defined the approach as,

> a formal education program in which a student learns at least in part through online learning 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. The modalities along each student's learning path within a course or subject are connected to provide an integrated learning experience. (p. 7)

Touted as the leading model of the future of online education (iNACOL, 2011), Watson (2008) shared that blended learning should be viewed as a pedagogical approach that

combines the effectiveness and socialization opportunities of the classroom, with the technologically enhanced active learning possibilities of the online environment.

With the implementation of one-to-one technology in many of our schools, personalized learning and blended learning are instructional models that will continue to grow in the kindergarten-twelfth grade classroom environment (Christensen 2013; Clement 2007; Horn 2011, 2012; iNACOL, 2011; Staker, 2012). In an increasingly information-based economy, students will need to not only apply knowledge, but create knowledge as well (Ackerman, 2009; Christensen, 2013; Vander Ark, 2013; Watson, 2008). Online learning is a way to help students become creators of knowledge. The development of Web 2.0 technologies allowed students to learn beyond their classroom walls in a variety of ways, with teachers becoming facilitators of the learning process; they approach their roles as guides and mentors instead of purveyors of information.

My use of Web 2.0 technologies began with my own teaching in a third-grade classroom where I was able to extend students' learning in the content areas of social studies and science; they were able to explore different concepts through thematic learning. However, it was not until I transitioned to a leadership role in the River Valley Public Schools (pseudonym) that I began to expand possibilities for helping teachers incorporate and implement technology in their classrooms.

I first became aware of the instructional model of blended learning in 2013 when I was applying for a position as Assistant Director of Teaching and Learning at River Valley Public Schools. At that time, the district was field-testing blended learning in classrooms including; kindergarten, fourth grade, sixth grade, seventh grade, Language Arts, Algebra 1, Calculus, and tenth grade Language Arts. During the interview process,

there were a number of questions on the topic of the blended learning model of instruction. I was hired a short time later to begin working in the Teaching and Learning department at River Valley Public Schools supporting eight teachers in six buildings with the implementation of the model of blended learning.

In August of 2013, the school district expanded the program by adding an additional forty teachers across twenty buildings. In 2014, the school district expanded the initiative with phase two which included one hundred eighty kindergarten-twelfth classrooms. Then in 2015, the program evolved to include three hundred fifty teachers and over 10,000 students. Beginning in the 2016 school year, there were over five hundred teachers and 12,000 students engaged in this learning model. I have worked alongside each individual teacher using the blended learning model of instruction during the past four years. The involvement in this initiative has led me to dive deeper into this instructional model to best support teacher learning. Darling-Hammond (2000) explained what is needed by teachers to support learning:

> Teaching for problem-solving, invention, and application of knowledge requires teachers with deep and flexible knowledge of subject matter who understand how to represent ideas in powerful ways, can organize a productive learning process for students who start with different levels and kinds of prior knowledge, assess how and what students are learning, and adapt instruction to different learning approaches. (p. 166)

How is this being done in kindergarten-twelfth grade classrooms? Is learning in this fashion only conducted for traditional students? What about culturally diverse learners, students that are from culturally, racially, and economically different backgrounds compared to white, mainstream United States (Gay, 2010)? Diverse learners include underprivileged students and students of color (Hispanic, African American, Asian Americans, Native Americans, and Pacific Islanders), immigrant students, special

education students, and those students where differences in language, culture, and lifestyle are divergent from the expectations of the dominant culture. Are teachers prepared to meet the needs of these diverse learners as they implement blended learning? These are questions posed as I embarked on this inquiry. Teachers must differentiate for all levels of learners, not just traditional students. For example in a third grade classroom where there are twenty-five students, there could potentially be twenty-five different levels of learners in each individual content area. Differentiation or personalization becomes extremely challenging for teachers unless they are using an instructional model such as blended learning (Horn, 2013; Staker, 2012; Sturgis, 2011; US DoED, 2009). Bayse (2014) stated that technology, when employed properly and meaningfully, could help educators deliver content. It helps facilitate timely interventional responses, empower learners with data, and provide different avenues and experiences for the learner. Incorporating technology through the blended learning model can assist teachers in personalizing instruction for each individual student, while focusing on each specific learning outcome.

Technology in teaching and learning builds 21st century skills, increases student engagement and motivation, and accelerates learning (US DoED, 2016). This focus may fill the gaps of missing knowledge and extend the knowledge for those students who have already mastered a specific outcome (Christensen, 2011; Horn, 2013; US DoED, 2016; Vanderkam, 2013; Vignare, 2007; Watson, 2008, 2010). According to Williams (2015), personalized learning eliminates the ambiguity by telling students the exact areas they need to focus on in order to close the learning gap. Students work at their own pace, developing foundational skills and knowledge to help them as they progress.

Personalized learning is not just for the students; it also needs to be implemented to support teachers in their own professional development (Ferriter and Provenzano, 2015; Graham, 2015; Richardson, 2003; Voogt, 2015). Hanover Research (2013) found evidence that suggested reforms that work for student learning are also effective when applied to teacher learning. Suggested strategies include choices, clear goals, opportunities to extend and apply learning, and providing appropriate challenges and feedback. Richardson (2003) advocated an inquiry approach to professional development to determine teacher's individual goals and collective goals, to try out new practices, and to gather data to support dialogue and discourse. Voogt (2015) noted how teachers were actively engaged in personalized learning for their own practices while collaborating with others in ways that were meaningful for all. Ferriter and Provenzano (2015) described how the use of a blog and a Twitter account established vehicles whereby one teacher was able to network with over 30,000 followers/teachers. These are examples of learning from others, sharing what works, discussing ideas, and true collaborative dialogue based on the learning needs of the individuals involved. One last learning strategy supported by the blended learning model is using what is called an unconference. Graham (2015) implied that an unconference has no predetermined sessions or topics. Teachers sign up to lead discussions about topics for which they believe they can serve as the "expert." Teachers then attend only those sessions that they see as appropriate for their needs. This structure allows teachers to become leaders and personalize their learning.

While I have spent the last few years supporting teachers in a blended learning environment, I have not had the opportunity to hear directly from individual teachers about their experiences nor encountered information or research on what knowledge and

skills teachers voice as needed in order to successfully teach in a blended learning classroom environment (Attwell, 2007; Barbour and Ferdig, 2012; Horn and Staker, 2011; Jackson, 2014). I examined the stories of teachers in a blended learning classroom environment to understand the knowledge and skills they express as a must have to teach in this educational environment. The knowledge gained from this study could potentially enhance the continued growth and expansion of blended learning, not just within River Valley Public Schools, but also in each and every kindergarten – twelfth grade classroom implementing blended learning as an instructional model in other districts.

Statement of the Problem

Often the technology is placed in classrooms and it is assumed that teachers can effectively use these tools to support learning. Most educators lack knowledge and skills to individually engage and personalize students' learning in classrooms purported to be a blended learning environment (iNACOL, 2006, 2011; Horn and Staker, 2011, 2012; Lindstrom and Speck, 2004; Means, Toyama, Murphy, Bakia and Jones, 2009; Vanderkam, 2013). The technology is present in such classrooms and furniture is re-arranged from individual desks to round tables and chairs to increase collaboration among students. While the environment changes, teachers still struggle with how to incorporate or integrate blended learning with their instruction. The New Media Consortium (NMC) Horizon report (2013) identified key emerging issues in education technology. One of the key issues is the lack of adequate, ongoing professional development for teachers who are required to integrate new technologies into their classrooms, yet who are unprepared or unable to understand new technologies. Also according to the report, there is a gap between the vision of delivering personalized,

differentiated instruction, and the technologies available or the know-how from teachers to make this possible. The United States Department of Education released the National Education Technology Plan titled *Reimagining the Role of Technology in Education* (2016) that states: "It is inaccurate to assume that because a teacher is tech-savvy in their personal lives they will understand how to use technology effectively to support learning without specific training and practice" (p. 32). Teachers need to experience first-hand how to effectively use technology. Further, the report emphasizes ongoing professional development that allows them to work closely with mentors who provide modeling and support for incorporating technology in their teaching.

Survey data collected from students, teachers, and parents revealed some unevenness in the implementation of blended learning in the setting for this study (River Valley Blended Learning Survey, 2016). The Likert survey consisted of different questions pertaining to a student, teacher or parent, where each participant rated their response with; strongly disagree, disagree, neither disagree or agree, agree, strongly agree. A strength of a Likert scale is it can give an idea about how strongly a participant feels about something. The scale provides more detail than a simple yes or no answer. A weakness of a Likert scale is people often respond towards the middle of the scale, perhaps to make them look less extreme. Open questions were also included, where participants gave a written response. These types of questions produce more in-depth responses and share what the participant actually thinks, rather than being restricted by categories. The survey is based upon self-reported data, which has its shortcomings. In general, participants want to respond in ways that make them look as good as possible; thus, they tend to under-report behaviors deemed inappropriate by the researcher and

over-report behaviors viewed as appropriate. Self-report bias is particularly likely in organizational behavior research because employees often believe there is at least a remote possibility that employers could gain access to their responses (Donaldson & Grant-Vallone, 2002; Moorman & Podsakoff, 1992).

Nevertheless, this instrument revealed useful information regarding blended learning. Teachers reported they need more professional development, specifically on how to create courses using a Learning Management System (LMS) to personalize instruction for students. A second aspect reported was the need for teachers to personally experience what a blended classroom environment looks like and feels like in traditional classrooms where they normally teach. The findings related to parents on the LMS suggested that their children were more academically successful in a blended learning environment when implementation was across the building. Students struggled with going back and forth between a traditional learning environment and a blended learning environment. Additionally, parents reported that when entire grade level teams were fully teaching and implementing the blended learning model, there was greater student engagement. Students also reported an increase in their engagement when learning in this environment versus learning in a traditional classroom setting.

If classroom instruction is not engaging learners, they are not learning (Pierce, 2009). Under the Obama administration, education was an urgent priority. One clear goal of the administration was to close the achievement gap so that all students – regardless of race, income, or neighborhood – graduate from high school ready to succeed in college and careers (United States Department of Education (USDoED), 2010). Reardon (2016) examined data that encompassed more than 200 million test scores from 40 million third

through eighth graders in every public school district nationwide. Identified in the data were key patterns of educational inequality that included:

- The most and least socioeconomically advantaged districts have average performance levels more than four grade levels apart.
- Average test scores of black students are, on average roughly two grade levels lower than those of white students in the same district; the Hispanic-white difference is roughly one-and-a-half grade levels.
- Achievement gaps are larger in districts where black and Hispanic students attend higher poverty schools than their white peers; where parents on average have attained high levels of education; and where large racial/ethnic gaps exist in parents' educational attainment.
- The size of the gaps has little or no association with average class size, a district's per capita student spending, or charter school enrollment.

In River Valley Public Schools, the graduation rate for all students increased over the last 5 years. In 2011, the graduation rate was 85% and in 2015, the rate increased to 92.1%. During these same years, white students' graduation rate increased from 87.3 % to 92.9%, Hispanic students increased from 60% to 87.9%, American Indian students increased from 74% to 96%, black students increased from 82.8% to 85.2%, and multiracial students increased from 47.6% to 90.1% (River Valley Public Schools, 2016). The number of classrooms implementing personalized learning through the blended learning instructional model also increased during this same time period.

There is still an achievement gap, however the gap is decreasing in this district of study. Factors that may contribute to lower graduation rates of students of color in this

district could be the absence of culturally relevant curriculum, lack of teachers of color teaching in the buildings, limited community involvement and engagement, and the need to focus on each individual student's learning needs. The report, "Black Lives Matter: The Schott 50 State Report on Public Education and Black Males" (2015) offered suggestions for reducing the disparities in the achievement gap. First, meeting student-centered learning needs by focusing on the individual needs of each student, instead of using a one-size-fits-all approach, and creating "personal opportunity plans" for every student. Secondly, improving school climate by utilizing restorative justice practices instead of out-of-school suspensions. Thirdly, by harnessing resources in the community to expand high-quality education that includes providing mentors and learning opportunities for students while also meaningfully engaging parents in the conversation. Across the nation, the gap continues to increase when lessons are not personalized and individualized for each learner (Achterman & Loertscher, 2008; Allen, Seaman, & Garrett, 2007; Bailey & Martin, 2013; Bailey, Hassel, Schneider & Vander Ark, 2013; Ferdig, Cavanaugh, & Freidhoff, 2012; Doo Hun & Morris, 2009).

In the district under study, students in a second grade blended classroom environment had a median increase of 10 points on the Measures of Academic Progress (MAP) reading assessment, while students in the traditional classroom had a median increase of 5 points. Students in a fifth grade blended classroom environment had a median increase of 5 points on the MAP reading assessment, while students in the traditional classroom had a median increase of 1 point. The greatest difference between the two classroom environments was in kindergarten. Students in a kindergarten blended classroom environment had a median increase of 25 points on the MAP reading

assessment, while students in the traditional classroom had a median increase of 10 points. Darling-Hammond (2014) stated there are three important variables for success with students who are learning a new skill. This includes interactive learning, use of technology to explore and create rather than to "drill and kill" and the right blend of teachers and technology. Personalizing and differentiating learning for students, especially those who tend to be struggling learners, begin to address student engagement for eliminating gaps in learning. Focusing on what teachers need to do in order to increase learning for the most struggling students helps to eliminate deficit approaches that blame the student for low achievement. Limited engagement with students and the influence of deficit theories about learning often place the blame of low achievement on students without making connections to such factors as the sociopolitical context of the achievement gap that entails less resources and opportunities for robust learning, especially amongst poor and diverse learners (Caruthers & Friend, 2016; Irvine, 1990; Milner, 2013; Nieto, 2010; Thompson, 2004).

Gynnild (2003) studied student performance and needs in the classroom setting to identify the teaching needs of eighty students who perform well and those who perform poorly with a view of differentiating teaching to provide a higher level of understanding and reduce shallow approaches to learning. The first set of data was quantitative data from a questionnaire and the second set of data was the complete set of marks awarded to the students for the end-of-term assessment. Findings from the study suggested that students with the poorest learning outcomes have differing needs in regard to their learning requirements than students with significantly better results based upon exams. Also based upon this study, it would be beneficial to consider offering different kinds of

support to groups of students within a course. One key finding highlighted the need for more dialogue between students and teachers. The need for more differentiation that emphasizes the culture and background knowledge students bring to school with them will improve learning (Delpit, 1995; Gay, 2010; Hollins 1996; Ladson-Billings, 1995).

A potential cause for the problem of educator's limited knowledge and skills to individually engage and personalize students' learning for students in a blended learning environment (Achterman & Loertscher, 2008; Allen, Seaman, & Garrett, 2007; Bailey & Martin, 2013; Bailey, Hassel, Schneider & Vander Ark, 2013; Ferdig, Cavanaugh, & Freidhoff, 2012; Doo Hun & Morris, 2009) may be attributed to, according to Larson (2009), the relative static of education in the United States over the last one hundred years which fails to meet the changing diversity in the larger society. The number of diverse students in United States schools continues to grow. Nationally, enrollment in public schools for Hispanic students has increased from 12,502,000 (sixteen percent) in 2005 to 14,121,000 (seventeen percent) in 2009 (U.S. Census Bureau, 2012). Enrollment for African American students has increased from 10,885,000 (thirteen percent) in 2005 to 11,110,000 (fourteen percent) in 2009 (U.S. Census Bureau, 2012). In the district under study, demographics have changed over the last ten years and all schools have become more diverse. Over this time period, Hispanic percentages have doubled from four percent to eight percent, African American percentages decreased from eight percent to six percent and "other" percentages have increased from fourteen percent to sixteen percent, which include the Native American population. With this change, teachers no longer teach in a generally homogenous setting, a paradigm shift is needed to alter the education, training, and preparation of pre-service and current teachers to meet the needs

of the current generation of learners (Oblinger, 2005). To prepare for teaching a diverse group of learners, leaders need to ensure the availability of ongoing, job-embedded, and relevant professional learning designed and led by teachers with support from other experts (US DoED, 2016). Printed books and structured classrooms can no longer be the primary means for preparing our students for the 21st century (Center for Digital Education, 2007). These arrangements also cannot be the primary means for preparing our teachers. In kindergarten-twelfth grade education, a recent study by the North American Council for Online Learning predicted that the blended approach is likely to emerge as the predominate model of instruction and become far more common than either conventional, purely face-to-face classroom instruction or instruction done entirely online (Watson, 2008).

The Internet brought a scalable method to design learning environments that allows students to take more responsibility and ownership of their learning (Picciano & Dziuban, 2007). With students taking more ownership and responsibility in their learning, teachers need to continue to personalize their instruction for each individual student to engage them as a learner. Duhaney (2012) shared that students principally like blended learning for its flexibility. Students believe that they have more control over the pacing for the course and the location they wish to engage in their learning. Teachers who have used the blended approach have expressed their satisfaction with (a) the enhanced interaction that this format allows with students; (b) the increased student engagement, and (c) the flexibility this environment affords along with the opportunities for continuous improvement (Vaughan, 2007).

Creating classrooms that prepare students with 21st century learning skills

requires re-equipping classrooms and teachers with the necessary technology to make learning relevant to the learning styles of the students. The instructional approach that a teacher uses directly impacts learning (Anderson, 2009). Students are relative experts in the technological tools available in today's society (Oblinger, 2003). Teachers also need to be relative experts in the same tools and be able to implement and infuse them in the educational environment. Teachers must meet their students where they are in terms of both academic and social needs but also engage them in ways that were once impossible in the classroom setting, if they want them to succeed as learners.

To engage learners in the classroom, it is necessary to understand these new learners; the needs of the learners today are very different from those just a decade ago (Thornburg, 1992). Moreover, culturally diverse students do not perform as well in school as white students for many reported reasons. Oftentimes teachers do not understand the culture of diverse students and therefore cannot successfully teach them (Smith & Smith, 2009). The blended learning model supports teachers teaching in a classroom of diverse learners because it allows for teachers to connect with individual students, provides immediate feedback to the individual, and engages them in the same ways they are used to being engaged outside the educational setting (Aviles 2006; Barnett, 2004; Christensen, 2013; Jia, 2012).

However, several challenges have been raised with blended learning. Both students and teachers have complained about the time commitment to gain an understanding of the technology (Garcia-Valcarcel et al., 2014; Gedik, Kiraz, & Ozden 2012; Sanchez & Hueros, 2010). Teachers need technical support to understand the perceived usefulness of the technology for learning to be impacted (Capo & Orellana,

2012; Gedik, Kiraz, & Ozden 2012; Sanchez & Hueros, 2010). Comas-Quinn (2011) incorporated a mixed methods study to explore teachers' experiences using blended learning The study involved both participant observations and a survey followed by three semi-structured interviews. Identified were three reoccurring themes-- technical issues, the lack of online tools to integrate course activities or assessments, and shortage of time -- as the main factors in some of the teachers' abilities to effectively integrate technologies into the curriculum. The research suggested an increased understanding of the issues and challenges facing teachers to develop more effective training programs (Comas-Quinn, 2011).

As more K-12 schools move toward blended learning, it is important to understand how to assist the teacher in delivering authentic learning (Webb, Gibson, & Forkosh-Baruch, 2013). Educational leaders have an obligation to adopt polices where blended learning truly personalizes learning and bolsters teaching and learning (Horn & Staker, 2011). The information acquired from this study could allow district decision-makers and policymakers to understand how to move forward and discover how much time and what kind of support or professional development is needed for successful implementation. This study adds to the growing research around supporting teachers in their growth and development in the knowledge and skills to individually engage and personalize learning for all students in a blended learning classroom environment.

Purpose and Research Questions

> The phrase experiencing the experience is a reminder that for us narrative inquiry is aimed at understanding and making meaning of experience. This is the baseline "why" for social science inquiry. Why use narrative inquiry? Because narrative inquiry is a way, the best way we believe, to think about experience. (Clandinin and Connelly, 2000, p. 80)

The purpose of this heuristic narratological case study was to describe the specific components that teachers need in both their knowledge and skills to individually engage and personalize students learning in a blended learning classroom environment. I examined and analyzed the stories of teachers teaching in a blended learning classroom to understand what this knowledge is that they express and what specific skills they determine as a "must have" to teach in this educational environment. This study provides information for teachers and administrators about the characteristics and components highly effective teachers possess in order to successfully teach in a blended classroom. With a deeper level of understanding, educators can begin providing professional learning opportunities to develop and enhance their individual growth.

During my tenure of supporting teachers implementing the blended learning model in their classrooms with River Valley Public Schools, I have had the opportunity to take over one hundred different groups of people from around the country on tours of classrooms implementing the blended learning model. The main question that each group asked was the following: What knowledge and skills do you look for when selecting a classroom to begin using the blended learning model? Up to this point, I have not been able to give them a clear concise answer. Based on personal dialogue with educators from around the country, it is a question many people seek to answer to either employ new teachers in this environment or enhance the support teachers need to work in blended learning classrooms. Such specific knowledge supports the growth of classrooms implementing the blended learning model and in-turn supports student learning.

The key approach for this study is case study, described by Creswell (2013) as one of five qualitative traditions of inquiry:

> A qualitative approach in which the investigator explores a bounded system (a *case*) or multiple bounded systems (cases) over time, through detailed, in-depth data collection involving *multiple sources of information* (e.g. observations, interviews, audiovisual material, and documents and reports), and reports a case *description* and case-based themes. (p. 73)

In a similar fashion, Yin (1984) defined the case study research method as "an empirical inquiry that investigates a contemporary phenomenon with its real-life context; when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used" (p. 23). Merriam (2001) indicated that multiple case studies "are commonly referred to as collective case studies, cross-case studies, multi-case studies, or comparative case studies" (p. 40). For this study, I employed a multiple case study with each participant characterized as a single case and incorporate heuristic and narrative inquiry as additional theoretical traditions to shape the design of the study.

Heuristic comes from the Greek word *heuriskein*, which means to discover or to find (Moustakas, 1990). Moustakas (1990) described heuristic research as a "way of engaging in scientific search through methods and process aimed at discovery; a way of self-inquiry and dialogue with others aimed at finding the underlying meanings of important human experiences" (p. 15). Self-researchers are present throughout the process and as they come to understand the phenomenon with increasing depth, there is also the experience of growing self-awareness and self-knowledge (Moustakas, 1990). This self-awareness and self-knowledge are achieved through a process of indwelling, or an inward turn in order to take a deeper; more extended gaze into some aspect of experience (Moustakas, 1990).

Heuristic research shares a common goal with phenomenology, with its focus on the meanings of lived experience and allows the researcher to contribute their personal experiences and insights to the study (Patton, 2015). However, Douglas, and Moustakas (1985) made some important distinctions between these two perspectives. Phenomenology encourages detachment from the phenomenon being studied whereas; heuristic inquiry emphasizes connectedness and relationship among the people who have experienced the phenomenon. My personal connectedness to the study is the lived experience I have supporting teachers in this initiative. The outcomes of phenomenology and heuristic are also different. With phenomenology, the researcher concludes with a description of structures of the experience, but heuristic research concludes with a depiction of the essential meanings of the experience along with a portrayal of the personal questions that motivated the researcher's quest to know (Douglas and Moustakas, 1985). My personal questions and experience with blended learning, as the researcher, guided me in an in-depth exploration of blended learning using the stories teachers tell about their experiences with the phenomenon.

Clandinin and Connelly (2000) stated that narrative inquiry is increasingly used in studies of educational experience. The main reason for the use of narrative in educational research is that humans are storytelling organisms who, individually and socially, lead storied lives. They expressed:

> The study of education is the study of life – for example, the study of epiphanies, rituals, routines, metaphors, and everyday actions. We learn about education from thinking about life, and we learn about life from thinking about education. This attention to experience and thinking about education as experience is part of what educators do in schools. (Clandinin and Connelly, 2000, p. xxiv)

Since my study is focused on the stories told by teachers in a blended learning classroom, this type of method is fitting. Another aspect of narrative analysis that meets the purpose of my study is that it helps me understand how the participants construct meaning from their life experiences. Clandinin and Connelly (2000) defined narrative inquiry as a method that uses the following field texts as data sources; stories, autobiographies, journals, field notes, letters, conversations, interviews, family stories, photos, (and other artifacts), and life experiences. Narrative studies are influenced by "phenomenology's emphasis on understanding lived experiences and perceptions of experience" (Patton, 2015, p. 115). For this study individual teacher stories were analyzed and as the researcher incorporating my own experiences derived deeper meaning. I turn to the research questions that guided my inquiry.

Preliminary Research Questions

Central Question:

What do teachers describe as the knowledge and skills they need to teach in a blended learning classroom?

Sub Questions:

1) What themes are apparent in the stories that teachers tell about from their experiences in a blended learning classroom?
2) What differences do teachers describe in teaching between a traditional classroom and a blended learning classroom?
3) What are the personal barriers teachers faced when they began teaching in a blended learning classroom?

While these questions guided the design of the study and are linked to the conceptual and theoretical framework, the questions likewise helped to make meaning of the phenomena of blended learning.

Conceptual Framework

According to Maxwell (2005), "The conceptual framework of your study is the system of concepts, assumptions, expectations, beliefs, and theories that supports and informs your research" (p. 33). Synonymous with theoretical framework, Miles and Huberman (1994) described a theoretical framework as a written demonstration that explained "the main things to be studied – key factors, concepts or variables – and the presumed relationships among them" (p. 18). As theoretical and conceptual frameworks are constructed, they could contain the following: (1) researcher's own experiential knowledge; (2) existing theory and research; (3) pilot and exploratory research; and (4) thought experiments (Maxwell, 2005, p. 37).

The foundation knowledge that undergirds this study includes such theories as adult learning theory, disruptive innovation theory, transformation theory, and change theory. These theories are expanded on in chapter 2. Blended learning, the environment of blended learning, personalized learning, 21st century skills, 21st century technology, and professional learning for teachers, comprise Chapter 3: The Literature Review with an integration of empirical studies. The selection and inclusion of theories and concepts are based on my experiences as an educator in the kindergarten-twelfth grade public school system. During this time, I experienced change in education that was never truly a change. It was a modification of what was currently happening in schools regarding curriculum and instruction, but no new innovations were being implemented.

The idea of personalized learning through the model of blended learning is a disruption on the current factory model of schools. Previously highlighted in this chapter, I have experienced firsthand supporting teachers in the implementation of personalized learning using the blended model. Over the last three years, I have been an integral part of taking an initial field test of eight classrooms to over five hundred classrooms. This role has allowed me to experience the successes and challenges of teachers working in a blended model. These experiences have also confirmed that there are different skills and knowledge that teachers need to be successful while teaching in this environment.

Each of the theories and concepts presented in this section, supports blended learning, teachers who are using this model of instruction, and schools, and districts that are in the beginning stages of implementing personalized learning using the blended model. I begin with the theories that serve this study with an expanded discussion of these in chapter 2.

Theories of Learning

There are two types or categories when understanding learning theories. One is constructivism and the other is connectivism. Constructivism is a learning theory that can form the foundation of educational pedagogy used in a blended learning environment. Connectivism is a new learning theory in the digital age in which learning results from forming networks. These connections that individuals make through digital media, such as online social networks, create new ways of learning that did not previously exist prior to this technology. A blended learning environment supports these connections needed to learn from others, not just teachers or students within a traditional classroom setting.

Piaget had two questions he tried to answer in his theory on learning: What are the characteristics of children that enable them to adapt to their environment? What is the most effective, accurate, and most useful way of classifying or ordering child growth and development? Are these theories on learning provided by Piaget still relevant to student learning in a 21st century classroom implementing the blended learning model?

Entrenched in identity are the cultural factors and cultural beliefs that have been created through lived experiences (Vygotsky, 1998). Families, communities, and households are valuable resources in education. The knowledge and skills gained through these experiences allow for individuals to participate in conversations, activities, and be connected to the "funds of knowledge". Moll, Amanti, Neff and Gonzalez (2001) define funds of knowledge as "to refer to the historically accumulated and culturally developed bodies of knowledge and skills essential for household or individual functioning and well-being" (p. 133). It is the funds of knowledge that define how individuals learn. Understanding the student's funds allows for teachers to connect culturally relevant curriculum to a student's culture, identity, and experiences.

Following Piaget's cognitive theory, David Ausubel in 1966 stated the center of cognitive experience was meaning. Ausubel believed the most basic factor influencing learning was what the learner already knows about the subject matter. He considered direct didactic instruction as the most effective way to teach concepts to children, so they can relate new knowledge to relevant concepts they already know. The new knowledge must interact with the learner's knowledge structure. Direct didactic instruction is when the student depends on the teacher to provide all the information and used to teach basic skills when the student is unable to organize their work or to be independent.

Personalized learning through the use of the blended learning model supports the factors that Ausubel identified as having an influence on learning. Teachers can focus on what students already know about a concept or content area and build upon that knowledge. Personalized learning also allows for the instruction to be as direct as needed based upon each individual student.

In 1977, Robert Gagne posed a theory of hierarchical learning which asserted that before teaching a subject to students, learning objectives can be provided to them. Teaching a series of rules and determining the objectives for a course was known as prerequisite rules. Learning intellectual skills such as learning of discriminations, rules and concepts is the target for instruction. Learning theory connects to disruptive innovation theory because of the correlation between blended learning and how this model is changing the way students experience learning. For a true disruption to occur, the consumer must continue to demand new and innovative ways in which to learn. If the consumer does not demand this, the traditional methods will continue to be used.

Disruptive Innovation Theory

According to Christensen, Horn, and Staker (2013), Disruptive innovation theory emerged originally from a study of the disk-drive industry to explain why the leading companies were unable to sustain their industry leadership from one generation to the next. The theory incorporated product and service industries, for-profit to not-for-profit sectors, and slow-to-fast-moving markets. Disruptive innovation theory offers an explanation to why the most expensive products become affordable and accessible to those individuals with less money and even skill. This theory provides insights into the

future of education and specifically blended learning in regards to the use and implementation of technology.

Christiansen et al. (2013) claimed that industry leadership must be mindful of two markets: consumer and non-consumer. The consumer market is made up of individuals who purchase an industry's product. The non-consumer market is made up of individuals that may not be able to afford the product or due to a lack of need and understanding of the product are less likely to purchase the product. The business world thus focuses on the consumer market and is excludes attention to the non-consumer market. Christiansen et al. (2013) report performance improvements to be sustaining innovations that "help companies sustain their movement upward along the trajectory of performance improvement to make products that can be sold for better profits to their customers" (p. 11).

Transformation Theory

Transformative learning is the process whereby adult learners critically examine their beliefs, values, and assumptions considering acquiring new knowledge and begin a process of personal and social change called reframing in perspective (Mezirow, 1990). The transformation may be small or it may be large and may have a small or large impact on an adult learner's life, either initially or over time. Mezirow, (1978) described perspective transformation as the process of how adult learners could revise their meaning structures. Perspective transformation is the process of becoming critically aware of how and why presuppositions have come to constrain the way people perceive, understand, and feel about the world. According to Mezirow (2000), perspective

transformation is a means of reformulating assumptions to permit a more inclusive, discriminating, permeable, integrative perspective related to making decisions.

Transformational leadership is defined as a social process in which a member or members of a group or organization influences the interpretation of internal and external events, the choice of goals or desired outcomes, organization of work activities, individual motivation and abilities, power relations, and shared orientations. Educational leaders and teachers can no longer teach what it is necessary for students to learn; rather educators must teach the value of knowing where and how to find resources to supply the information to students. Transformational educators stimulate students to be innovative and creative by questioning old assumptions, traditions, and beliefs; reframing problems; and approaching old situations in new ways (Hoy & Miskel, 2005). This type of leadership and teaching authenticates experiences students obtain from diverse backgrounds and context.

Sanchez (2003) maintained schools must also help children develop into well-adjusted individuals who can thrive in a world that is increasingly characterized by difference, diversity, and rapid change. Children must be able to navigate this world of difference if they are going to succeed in life and become adults to be team players of communities and the larger society.

Change Theory

Anderson (2005) explained change theory as how a group of early and intermediate accomplishments set the stage for producing long-range results. There are several key elements to the approach of change theory, which include identifying a long-term goal, conducting "backwards mapping" to identify the preconditions necessary to

achieve the goal, identifying the interventions that your initiative will perform to create these preconditions, developing indicators for each precondition that will be used to assess the performance of the interventions, and using narrative writing to summarize the various moving parts (Anderson). Van de Ven and Poole (1995) defined organizational change as a difference in form, quality, or state over time in an organization. Van de Ven and Sun (2011) further suggested that change can be measured by observing the same object over two or more points in time related to some determined characteristics and observing the differences that occurred. If the difference is noticeable, one can say the organizational entity changed.

Change theory in education is used as a structure for defining the large-scale end goals, the measurable outcomes that will lead to achievement of goals, and the activities that need to take place to achieve outcomes. An unfocused exploration of what is new and exciting often occurs in education without any real plan for the merits of its implementation. Using the Theory of Change can create some focus in areas that would otherwise be chaotic and risky.

Next I provide an overview of the methodology, which includes the theoretical traditions and the sampling techniques used for selection of participants. The methodology is at the heart of the inquiry and combined with the questions and theoretical framework provides a holistic view of the inquiry.

Overview of Methodology

For my study, I conducted a heuristic narratological case study to understand the experiences of teaching in a blended learning environment. Creswell (2013) stated that qualitative designs help empower and elevate the accounts, experiences, stories, and

realities of others. Qualitative methods, per Patton (2015) facilitate study of issues in depth and detail. Approaching fieldwork without being constrained by predetermined categories of analysis contributes to the depth, openness, and detail of qualitative inquiry (Patton). Since it is conducted in a natural setting focused on the participants' perspectives and meanings, this method typically produces a wealth of detailed information about a much smaller number of people and cases. It is used to explore and understand the meaning individuals or groups ascribe to a social or human problem, (Creswell, 2009). This study lends itself to qualitative inquiry because I explored the experiences of eight participants through examining first hand their teaching environments as they implement the blended learning model.

Site and Participant Selection

This study took place in eight classrooms with teachers using the blended learning model each located within a Midwest suburban school district. I used purposeful sampling to select each of the sites for the study, which intentionally provided an understanding of the phenomena of the study. Data was collected in three elementary school, three middle school, and two high school environments. To better ensure that I could extract the rich data from these settings, I used criterion-sampling techniques to recruit participants for the study, which allowed me to collect descriptive data of individuals' own written or spoken words and observable behaviors (Taylor & Bogdan, 1998). These spoken and unspoken words and behaviors are the data that comprise this qualitative study.

Laverty (2003) asserted the importance of utilizing participants that have experience with phenomenon being investigated. I used the following criteria:

- Current teacher in the elementary, middle or high school environment within River Valley Public Schools that is part of the blended learning initiative.
- A mixed sampling of participants based on race, ethnicity, and gender.
- Has taught both in a traditional learning environment and blended learning environment.
- Agreed to participate in the study.

Data Collection

Miles, Huberman, and Saldana (2013) asserted that the researcher could focus on "naturally occurring ordinary events in its natural setting" (p.10). I collected the data for my study in the natural settings in which the teachers work in daily (Creswell, 2007). In my study, I used multiple data sources including written narratives, interviews, and classroom observations. Data varied by teacher depending on the grade level that they teach (kindergarten-twelfth grade) and the building where they teach, all of which is in the River Valley District. I was visible in the classrooms while conducting my observations; however, since students were not present, the learning environment was not disturbed.

The written narrative was used as the primary data source for this study, furnishing the rich data of teachers' experiences teaching in a blended learning classroom environment. The written narrative allows for teachers' voices to be shared and heard as intended. I used an open-ended and reflective prompt that required participants to respond in writing about their experiences. Narratives are a vehicle for educators to reflect on their teaching practices and explore queries they have about their professional

decisions. Through narratives individuals see and understand the world (Clandinin & Connelly, 2000).

Participants also participated in a semi-structured interview to gather data that may not have been shared in their narrative writing. Semi-structured interviews utilize a general set of questions with all participants; however, interviews varied with the context of each situation and allowed the researcher to capture participants' worldviews and new ideas (Merriam, 1998). This type of semi-structured method, allowed me to expand my questioning depending on the unique experiences of each participant.

Lastly, two classroom observations were completed to gather data about the physical environment and overall atmosphere of the classroom. Bogdan and Biklen (2007) described descriptive field notes for capturing aspects of observations as encompassing the following areas: portraits of the subjects, reconstruction of dialogue, description of physical setting, accounts of events, depiction of activities, and the observer's behavior. Since my study identified the knowledge and skills teachers need to meet the needs of their students in a blended learning environment, I describe in detail, using the previously discussed areas, what I observe in each individual classroom.

Data Analysis

The inquiry involved application of the six phases of heuristic inquiry, offered by Moustakas (1990) as the process for data analysis, which involves "initial engagement, immersion, incubation, illumination, explication, and culmination of the research in a creative synthesis" (p. 27). These various phases are described in the Chapter 4: The Methodology.

I began by creating different codes while reviewing the data I collected and incorporating heuristic inquiry. This initial coding process allowed me to establish patterns or themes that emerged throughout the data, in-turn, creating rich thick descriptions of the study's findings. Grbich (2013) averred that, "the researcher's creation of coding frames and highlights certain aspects of the text, providing the reader with one particular view" (p. 112). She continued, "as the repetition of words in content analysis is assumed to indicate their level of importance in the document, enumerative information is favored in terms of gathering and assessing data" (p. 114). Themes in the data, coupled with the experiences that I share with the phenomena of blended learning, supported the telling of the individual stories of participants and have implications for the significance of the study.

Significance of the Study

The targeted audience for this study is teachers in blended learning classroom environments and other school districts implementing blended learning. According to Means et al. (2010), a significant lack of rigorous online learning research is unavailable for policymakers to consider; thus, more research should be conducted to examine the many facets of the practice. I anticipate great interest in the results of the study so that new programs can be developed and specific teaching practices can be implemented. The components identified help create the most dynamic blended learning classrooms that personalize learning for all students.

In recent years blended learning has become instituted in many higher education settings and at the high school level (Benson, Anderson, & Ooms, 2001; Black, 2002; Cate & O'Hair, 2007; Osguthorpe & Graham, 2003; Watson, 2005, 2008; Welker &

Berardino, 2005). There have been some studies around these higher education programs, but very little research that has been conducted on programs in kindergarten-twelfth grade in public school settings (Horn & Staker 2011; King & Arnold, 2012; Kistow, 2011; Poon 2013; Staker & Horn 2012; Watson & Gemin, 2008; Watson, Murin, Vashaw, Gemin, & Rapp, 2010, 2011, 2012, 2013). King and Arnold (2012) completed a case study interviewing five faculty members who taught using a blended approach. Three key factors contributed to the overall success of blended learning courses; these were motivation, communication, and course design. Overall, findings from the study indicated that the faculty members considered these factors to varying degrees. Poon (2013) conducted a study using semi-structured interviews which concluded the most important factor for success when developing blended learning modules is the availability of human resources, necessary for human resources to be available to provide training and feedback.

The research is limited when it comes to the specific skills and knowledge these teachers need to have to be a successful teacher in the blended learning classroom (Horn & Mass, 2012; Horn & Staker, 2011; Staker & Horn, 2012; Watson, 2008; Watson & Gemin, 2008; Watson & Kalmon, 2005; Watson, Murin, Vashaw, Gemin, & Rapp, 2010, 2011, 2012, 2013). The identification of these specific skills and knowledge directly impact blended learning and personalized learning for our students. This identification provide school districts with specific knowledge, so they can provide professional learning opportunities for teachers.

Summary

In Chapter 1, I detailed the problem, the purpose, guiding research questions, conceptual and theoretical framework, methodological overview, and significance of the study. Chapter 2 discusses each of the theories more in-depth. A review of literature related to the theoretical framework is found in Chapter 3. The study's methodological design and data analysis procedures are described in Chapter 4. The results and findings are listed in Chapter 5. Lastly, I discuss implications of the findings and future areas of research in Chapter 6.

CHAPTER 2

REVIEW OF THEORIES

This study examined the experiences of teachers in a blended learning classroom environment. In general, I want to know what do teachers describe as the knowledge and skills they need to teach in a blended learning classroom? The following sub-questions help to answer this question:

- What themes are apparent in the stories that teachers tell about from their experiences in a blended learning classroom?
- What differences do teachers describe in teaching between a traditional classroom and a blended learning classroom?
- What are the personal barriers teachers faced when they began teaching in a blended learning classroom?

The purpose of this review is to examine current theories related to blended learning. The theories reviewed include learning theory, disruptive innovation theory, transformation theory, and change theory. Important to these theories is a discussion of how culture affects learning.

This chapter is essential to gain a deeper understanding of how each theory, as a foundation for personalized learning, supports a blending learning classroom environment to meet the needs of all learners including culturally diverse learners. I begin this discussion with a review of several learning theories in human development to grasp how children, including adults, learn. This examination is followed by theories which increase the understanding of self-directed learning for engaging in online and blended

learning; constructivism and connectivism were forerunners of self directed-learning which led to disruptive innovation theory, online learning, and more specifically blended learning. In today's schools with the changing demographic environment and the encroachment of a more global world, 21st century skills call for a more sophisticated citizenry with the ability to network with numerous audiences and to use critical thinking skills, (Ackerman, 2009: Allen, Seaman, & Garrett, 2007; Staker & Horn, 2012; Vanderkam, 2013); such learning entails transformation theory for helping individuals examine current thinking about the world and adopt new information. School leaders, through transformational leadership, can aid in the process of change for helping teachers transform their world views including belief systems that guide their work with students (Leithwood, Jantzi, Earl, Watson, Levin, & Fullan, 2004). Understanding how change occurs and initiatives are embraced involve knowledge of change theory (Abrahamson, 2004; Fullan, 2001).

Learning Theories

Theories described in this section begin with the early perspectives about learning derived from Piaget, which is often one of the first theorists that pre-service teachers learn about in their teacher preparation course work. Vygotsky (Chaiklin, 2003) extended the understanding about learning through an emphasis on the zone of proximal development and the social nature of learning; learning connected to the child's environment, "the social situation of learning" (p. 47). Vygotskian theory helped to explain the cultural nature of learning (Vygotsky, 1998). The Gagne learning theory and constructivism are closely related with their focus on what the learner brings to the process of learning, prior knowledge – connecting new knowledge to previous learning.

These theories align well with online learning and blended learning. The theory of connectivism entails networking in the digital age, where learning results from forming networks.

According to Piaget (1957), a newborn does not have ideas or concepts and does not think. They do not have a store of dreams or memories. As newborns grow, they continue to build up an inventory of behaviors and capabilities. First, the child seems limited with only sucking and grasping but then these acts become complex, coordinated, and purposeful. Piaget identified this process as adaption. Assimilation is defined as the time of making responses that have already been obtained. Finally, when accommodation occurs, the process is defined as modification of a response. These initial behaviors support continued learning throughout the lives of individuals. Behaviors become more complex, coordinated and purposeful as an individual learns and grows.

Piaget described cognitive structure as central to learning theory. Cognitive structures are properties of the intellect that govern behavior. Piaget was interested in the origin of cognitive structure and its development from birth to adulthood. Piaget suggested that cognitive development is a function of four processes: psychological development, personal interaction with the environment, direct instruction, and self-regulation. He concluded that children have different explanations for learning throughout their cognitive development, which is assisted by the activities. Challenging and encouraging teaching methods help kids to increase their cognitive capabilities (Lefrancois, 1991), is the role of both parents and teachers. As a matter of fact, parents are considered their children's first teacher.

A criticism of Piaget's research is that the samples of children were all from well-educated professionals of high socioeconomic status. However, environmental factors that may play a role in the development of the learner must be considered. Vygotskian theory shares the perspective that identity is embedded in concrete historical cultural factors such as social institutions, artifacts, and cultural beliefs (Vygotsky, 1998). Individuals develop and create lived experiences through participation in human activities such as socialization and education, which affect their lives and interactions with others. Stryker's (2000) definition of identity "refers to an internalized set of meanings attached to a role played in a network of social relationships, with a person's self viewed as, in important part, an organization of the various identities held by the person" (p. 6). This definition and the perspective of Vygotsky's theories about learning can be connected to the "funds of knowledge" approach.

The "funds of knowledge" approach assumes that families and communities are valuable educational resources. Households and communities accumulate multiple bodies of knowledge, ideas and skills to maintain the household and individual well-being. The funds of knowledge are the result of persons lived experiences including their social interaction, their participation in multiple job markets, and their varied language-related activities (Gonzalez & Moll, 2002; Moll & Cammarota, 2010).

Identity is often considered to take place solely within the mind of the individual. On the contrary, identity is embedded in culture and vice versa. People define themselves through other people and their artifacts and resources – visible and invisible – of their social and cultural worlds. Funds of knowledge and funds of identity are useful for individuals to identify themselves. It is the lived experience, embedded in social and

cultural sources of identity that define how individuals learn. The challenge in education consists of connecting bodies of educational resources with teaching practice to connect the curriculum with students' lives. In other words, funds of knowledge research are driven by an equity agenda that capitalizes on building on the students' and their families' knowledge and experiences as resources for schooling (Estaban-Guitart & Moll, 2014). Students learn and remember new information best when it is linked to relevant prior knowledge, specifically "prior funds of identity." Understanding the student's funds of identity helps teachers to select the appropriate instructional materials and to connect the curriculum content to student's culture, identity, and experience (Estaban-Guitart & Moll, 2014). Teachers are the mediators who provide or fail to provide the essential experiences that permit students to release their awesome potential (Hillard III, 1991).

The Gagne learning theory is an analytic step-by-step framework (Lefrancois, 1991), which supports personalized learning for students that occur when specific rules, objectives, or goals are targeted for individual students; thus tailoring learning to each learner. Students can engage in the lessons knowing that the learning is building upon prior knowledge that is specific to their learning needs. This theory is similar to constructivism.

Wangpipatwong and Papasratorn (2007) called constructivism a dominant learning theory that is just as relevant today as it was during the past couple of decades. In a constructivist classroom students engage in learning through collaboratively exploring their environments and the surrounding social context. Bellefeuille (2006) stated principles of a constructivist classroom include: supporting self-directed learning, developing learner autonomy, communication, collaboration, reflection, scaffolding,

viewing multiple perspectives, and authentic learning activities. The theory of constructivism applies to a learning environment that is computer-mediated, which includes blended learning (Bellefeuille, 2006). As students engage in learning at their own time and place, there is a need to exercise personal responsibility, self-directed learning, and construct knowledge through a medium that supports independence and connections with others. In the blended model of instruction, specific activities that are challenging to the individual can be used for learning. Also since blended learning incorporates both online and face-to-face instruction it supports the four processes of cognitive development as asserted by Piaget.

Wangpipatwong and Papasratorn (2007) designed a quantitative study of a constructivist e-learning environment model, which was built around exploration, collaboration, and construction of knowledge. The study consisted of a random sampling of six hundred students from a student population of 4200 students at Bangkok University. Students received a questionnaire from Wangpipatwong and Papasratorn and a total of four hundred and sixty-three responded. A second set of data, including assessments of student learning distributed through the course semester, was collected by Wangpipatwong and Papasratorn from a random sample of two class sections that comprised thirty-one students and twenty-eight students respectively from the university. They described the learning process as exploration This exploration involves the search for information, the evaluation of information sources, the analysis of located information, the synthesis of information, and the construction of new knowledge. As this learning process unfolded, Wangpipatwong and Papasratorn stated students must be able to communicate with each other to learn and construct knowledge collaboratively. These

elements fit within the tools of online social networking. The use of a wiki, for example, is a collaborative set of knowledge constructed by a team of people after the synthesis of collected information. The model of e-learning presented by Wangpipatwong and Papasratorn is dependent on collaboration with others and construction of new knowledge in a networked medium online.

Adult learning is framed in the social constructivist theory. Adults learn better when they are part of a collaborative culture (Killion & Roy, 2009). Andragogy, or adult learning, arises when schools instill a culture of collaboration and collegiality (Semadeni, 2010). Researchers have indicated that collaboration stimulates the brain allowing for deeper individual and group learning (Achterman & Loertscher, 2008). Teachers who engage in frequent and continuous conversations about teaching and learning will create a motivated culture of shared practice as well as build stronger self-efficacy in the mindset of the teacher (Killion & Roy, 2009; Reason, 2010). Collaboration empowers individuals, creating a shared purpose and accountability (Reason, 2010). Furthermore, Reason (2010) concluded that collaboration can challenge inconsistencies, test values, establish accountability, build memories that instill trust, and reduce isolationism. Therefore, educators should work together to "plan, design, research, evaluate, and prepare teaching materials together" (Killion & Roy, 2009, p. 39).

Concurring, Waddel and Lee (2008) pointed out educators are motivated by a shared purpose as well as ownership for the agreed changes which leads to the acceptance of change and subsequent implementation. For this reason, leaders should create a stimulating environment where teachers can engage in the professional learning process either in small groups or whole group while collaborating with others both inside and

outside classroom settings (Killion & Roy, 2009).

A shared purpose is essential to the implementation of blended learning. Moreover, adults must understand why the blended learning approach is important (Guskey, 2014; Knowles, Holton, & Swanson, 2005). The way for adults to have a better understanding of the blended learning model is for them to experience it first hand as a learner. When a culture of collaboration is shared amongst the teachers within a building and they are learning from others both face-to-face and online, they will become more engaged in the blended learning model. Such learning support connections with others with the use of social networking tools.

Connectivism is another component of learning theory. Pettenattie and Cigognini (2007) claimed online social networking tools support connectivist learning. Siemen (2005) stated:

> Learning is a process that occurs within nebulous environments of shifting core elements not entirely under the control of the individual. Learning (defined as actionable knowledge) can reside outside of ourselves (within an organization or database), is focused on connecting specialized information sets, and the connections that enable us to learn more are more important than our current state of knowing. (p. 5)

Pettenattie and Cigognini, Siemens originated and defined connectivism as a new learning theory in the digital age in which learning results from forming networks. While the theory of connectivism addressed by Siemen, as well as Pettenattie and Cigognini (2007), does not specifically address students of high school age, it has implications for ways to design online learning activities. Essentially, the connections we make as individuals through digital media, such as online social networks, create new ways of learning that did not previously exist prior to this technology. Pettenattie and Cigognini stated connectivism is a theory that knowledge is created and exists through the

connections people make with each other and with technology. Connectivism suggests that being a knowledgeable person requires the ability to know who to connect with and where to find information. Knowledge, therefore, is the interconnected information that resides in people and technologies and brought together as meaningful content through networks.

Herrington, Oliver, and Reeves (2003) published a qualitative study on the effectiveness of online learning to engage learners in authentic learning tasks based on the review of literature and the analysis of interviews. Teachers, instructional designers, tutors, and authors associated with online courses that met the research criteria of authentic learning activities were selected for the study. Their study focused on the benefits of integrating authentic tasks within the online learning curriculum. The instructional pedagogy of such learning placed students within collaborative teams to address a real-world problem using online tools. One finding reported by Herrington, Reeves, Oliver, and Woo (2004) suggested learners must reflect on personal and social interactions, choices, and processes. It is through this reflection, both individually and socially, that students develop a deeper understanding and appreciation for the learning that has occurred because of authentic learning experiences. Connectivism incorporates the discussions and reflections learners engage in through their networks; stressing the importance of incorporating reading, contributing, and reflecting on the reflections posted by others online.

Siemen (2005) outlined eight basic principles to better understand the concepts in connectivism. The first principle asserted that learning and knowledge are dependent on a wide array of opinions from a diverse group of people. Secondly, learning occurs when

specialized information sources are connected. Learning may not be entirely based on human interaction and may rely on non-human technology, such as web-based programming. Siemen suggested that the fourth principle is focused on attitude and aptitude. He explained that people must have the attitude and aptitude to continue learning more than is currently known individually or collectively. The fifth principle proposed that individuals must continuously learn by maintaining and nurturing connections. The connections that exist between concepts, ideas, and fields are the focus of the sixth principle and learners must be able to identify those connections. The primary purpose of all connectivist-learning activities is highlighted in the seventh principle; which is to remain current and accurate with up to date knowledge. The eighth and final principle outlined by Siemens (2005) is the act of making decisions as part of the process of learning. The eight principles form an underlying basis that can be seen in online social networking.

Lifelong learning as related to connectivism requires a person to know what else they need to know, where to find resources, and how to learn new knowledge. Song and Hill (2007) researched the use of online learning to develop student self-directed learning attributes and skills. Candy (1991) stated a personal attribute (personal autonomy), the willingness and capacity to conduct one's own education (self-management), a mode of organizing instruction in formal settings (learner-control), and the individual, non-institutional pursuit of learning opportunities in the natural social setting (autodidaxy) as the four dimensions of self-directed learning. Song and Hill (2007) conceptualized three core fundamental components of self-directed learning within an online course, personal attributes, processes, and context. To effectively develop self-directed learning attributes

and skills learners must become more skilled at knowing what networking tools to use to locate and access information and how to use those tools as resources within various contexts. The principles addressed by Song and Hill (2007) emphasized the importance of self-directed learning for becoming a lifelong learner and place an emphasis on the need to teach students how to create their own learning paths. Self-directed learning and learning paths are likely to lead to individual transformation through the integration of blended learning. This new type of learning is a disruptive innovation.

Disruptive Innovation Theory

Disruptive innovation is one that replaces the original product with something that is more affordable and simple that everyone can use and access. As this new product gains momentum, it begins to take over the original product, disrupting innovation. Christensen, Horn, and Staker (2013) stated that disruptive innovation is not a performance improvement.

Email, discount retailers, and TurboTax are all examples of disruptive innovation. The term refers to products and services that start in simple applications at the bottom of the market for those without the wealth or expertise to participate otherwise in the market. TurboTax is one example. Prior to TurboTax there were only two options either complete the tax return with paper and pencil or hire an accountant. Most people struggled with the pencil and calculator option to file their own tax returns because they could not afford to pay a professional tax accounting firm to do it for them. With the new software, it disrupted the current system made up of professional tax firms. Christensen et al. (2013) maintained, “New entrants, rather than incumbent companies, almost

invariably grow to dominate the industry when one of these disruptive innovations emerges" (p. 12).

Online learning and more specifically blended learning are examples of a disruptive innovation. In *Disrupting Class* (2008), the authors showed that online learning bears the mark of a disruptive innovation. This started with online competing against nothing at all. They included advanced placement courses or other specialized courses that would not be able to be offered otherwise. The second aspect of disruptive innovation is predicting growth. The growth projection appears to be proving accurate and suggests that by 2019 roughly fifty percent of high school courses will be delivered online in some form or fashion. A third aspect/element of a disruptive innovation is that it improves over time until it becomes good enough to meet the needs of mainstream consumers. This is seen in schools as educators begin the process of implementing more personalized computing devices. The final aspect is the incorporation of the innovation into the daily lives of individuals. This can be seen in the ways that online learning is being combined with physical space of schools and with face-to-face instruction. Blended learning per the disruptive theory could potentially change education, as we currently know it.

Christensen, Horn, and Johnson (2008) used parts of Disruptive Innovation Theory to describe the relationship between educational technology and educational outcomes. They (2008) stated that the typical approach to integrating technology into school is to just place computers in classrooms. This approach will allow for traditional practices to continue to be used while just completing them on a computer. For example, a worksheet completed with a pencil is the same as a PDF of a worksheet on the

computer. The computer would have a much greater impact on education if used as a disruptive innovation, as in the case of blended learning.

Christensen, Horn and Johnson (2008) indicated that the role of the teacher would be greatly affected by a shift to computer-based learning. Teachers are expected to provide more personalized instruction for students and less whole class instruction. Classrooms are more diverse, and each student has a different educational need. Teachers will need to understand the differential needs of students and use technology to provide one-on-one instruction. Professional learning for teachers should drive this shift if teachers are to engage students in this disruptive model and must be personalized for teachers to impact growth, like the personalization of learning for students. The blended learning model supports this endeavor for teachers. Ultimately for a disruption to occur in among teachers, they must transform their beliefs and assumptions, not only about how learning occurs but the nature of learning for diverse students.

Transformation Theory

Transformation has been described as a fundamental change in one's personality, to shift ones understanding or assumptions to cope with new information (Boyd & Myers, 1998; Cranton, 2000; and Daloz, 1986). Adult learners apply new knowledge to their lives. They go beyond just reciting lesson plans. These changes that they experience are often significant steps to a lifelong journey toward their full potential. Merriam and Caffarella (1999) noted that learning from experience involves one's readiness to acknowledge an experience (concrete experience), viewing the experience from a different perspective (reflecting observation), the ability to analyze so that ideas and

concepts can be developed (abstract conceptualization), and the ability to put into practice concepts learned (active experimentation).

Transformation Theory entails how transformative learning occurs and how it is best developed in adults. Situated within the experiential learning framework, transformative learning theory assumes that adults learn more by processing experiences from engaging in typical pedagogical processes. Specifically, stated Mezirow (1991), "what becomes fact for us depends upon how we have defined for ourselves the nature of our experience" (p. 25). Mezirow's theory resulted from his study of women returning to higher education after having been housewives and mothers. His observations included that not only was content learning occurring, but also long-held notions about former roles were being challenged and ultimately changed. Mezirow (1991) suggested that the most profound transformative learning occurs when individuals change their meaning perspectives or schemata by using cognitive skills to examine, challenge, and potentially reformulate beliefs and assumptions which influence their experiences of the world.

King (2009) contends that as adults consider and learn new information, they determine how to make it fit into their existing belief and value structures. If the information readily fits into past patterns then they continue with an understanding of the information but without much further disruption in their beliefs, values, and assumptions. However if the information does not readily fit, they may begin to question their values, beliefs, and assumptions to determine what is out of place. Hence, transformative learning represents learning that provides for ways of thinking and acting that more closely match the current environment. These ways of thinking and acting allow individuals to continuously assess and reformulate their perspectives, increasing

cognitive flexibility and complexity and contributing to more effectiveness as a learner and as a leader (Marsick, 1998).

To transform their learning, teachers must be prepared for ways to teach all learners, including students from various racial and ethnic groups. As school demographics change, teachers are more likely to teach children of another cultural background than their own. Yet, they complete most pre-service education programs with limited preparation for teaching in diverse schools, bringing very little cross-cultural background, knowledge, and experience (Ladson-Billings, 2001; McKenzie & Scheurich, 2004; Weiner, 2006). Schools can be places that silence voices when they legitimize only one understanding of knowledge at the expense of and exclusion of a different point of view (Banks, 2001: Henry & Tator, 2009). The premise of transformative learning is the confrontation of tactic assumptions with new ideas. A culturally diverse class is uniquely positioned to provide a transformative venue, especially when students are indeed given the opportunity to engage with diverse ideas, cultures, ideologies, practices, and beliefs in a safe environment. The blended learning model personalizes the learning allowing for learners to acquire new insights, thus welcoming a transformative experience. Understanding where students come from and the ideology that shapes their thinking can help teachers and leaders promote an environment that makes transformative learning possible.

Transformational School Leaders. A direct correlation to education is through transformational school leaders and how they persuade, inspire, and motivate others to achieve results. This occurs not through the provision of rewards and consequences (transactional), but by tapping into the intrinsic values of staff and shaping those to be

consistent with the school's mission, vision, and values (Lashway, cited in Smith & Pie, 2006 p. 90). The transformational school leader provides a mission-centered focus on setting directions, a performance-centered focus on developing people, and a culture-centered focus on redesigning the organization (Hallinger, 2003, Lashway, 2006; Leithwood, 1994; Leithwood & Jantzi, 2006; Marks & Printy, 2003).

Serrgiovanni (2007) views the role of the principal as the instructional leader and transformational leadership as the style, which best meets the needs of all stakeholders in the academic process. His research shows that transformational leaders seek to inspire and empower members of the organization to focus on a common vision and to take ownership of the change process through a collaborative approach. This type of leadership encourages teachers to focus on the organizational purpose, its shared beliefs, and the incorporation of a team. The transformation leader is more concerned with the process of how to get the results, rather than the results. The focus is on a shared vision and collaboration builds a strong school culture and commitment of teachers and staff.

Transformational leaders develop a shared vision for the school, build consensus around key priorities, hold high expectations, provide support, model appropriate values, build collaborative cultures, and share leadership. Transformational leadership has positive effects on school culture (Barnett &McCormick, 2004), teacher commitment, teacher job satisfaction (Bolger, 2001), changed practices (Leithwood et al., 2004), planning strategies for change (Leithwood, Aitkin, & Jantzi, 2001), and student engagement (Leithwood, et al., 2003). The transformational leader stimulates an interest in considering work from a new and fresh perspective (Bass & Avolio, 1994). These types of leaders inspire others through commitment to colleagues, perseverance, risk-

taking, and achievement oriented focus. Transformational leaders use prior success to build trust and confidence in those that they lead. Per Moore and Rudd (2006), transformational leaders motivate those around them to achieve greater outcomes than were originally intended or expected. Leithwood, Begley and Cousins (1994) conceptualize transformational leadership as follows:

> The term 'transform' implies major changes in the form, nature, function and/or potential of some phenomenon; applied to leadership, it specifies general ends to be pursued although it is largely mute with respect to means. From this beginning, we consider the central purpose of transformational leadership to be the enhancement of the individual and collective problem-solving capacities of organizational members; such capacities are exercised in the identification of goals to be achieved and practices to be used in their achievement. (p. 7)

Hersey, Blanchard and Johnson (2001) argue that there is a discernible difference between management and leadership, even though they are quite often used interchangeably. They suggest that leadership is a much broader concept than management. Bennis (2008) differentiates the extremes of management leadership with the following text:

> The manager administrates; the leader innovates. The manager is a copy; the leader is an original. The manager maintains; the leader develops. The manager focuses on systems and structure; the leader focuses on people. The manager relies on control; the leader inspires trust. The manager has short-range view; the leader has a long-range perspective. The manager asks how and when; the leader asks what and why. The manager has an eye on the bottom line; the leader has an eye on the horizon. The manager imitates; the leader originates. The manager accepts the status quo; the leader challenges it. The manager is the classic good soldier; the leader is his or her own person. The manager does things right; the leader does the right thing. (p.53-54)

Bennis places the application of leadership in problem-solving and motivating subordinates on a higher level than that of managing the same. His definition of leadership suggests a greater movement beyond simply meeting acceptable indices and goals.

To shift one's assumptions or understanding one must know how and why an initiative works, which is the theory of change.

Change Theory

Anderson (2005) defines change theory as a theory of how a group of early and intermediate accomplishments sets the stage for producing long-range results. There are several key elements to the approach of change theory. These key elements include identifying a long-term goal, conducting "backwards mapping" to identify the preconditions necessary to achieve the goal, identifying the interventions that your initiative will perform to create these preconditions, developing indicators for each precondition that will be used to assess the performance of the interventions, and using narrative writing to summarize the various moving parts (Anderson, 2005). Connell and Klem (2000) used a case study to research the theory of change approach to planning educational reform in an urban school district with approximately 23,000 students. Over sixty present of the students fell within the category of students of color and eighty percent of students were eligible for public/federal/state support of some kind. One of the issues that became apparent through their work was approximately forty percent of incoming freshman did not graduate from high school. During the three years of their presence in the district, there were three superintendents, redistricting because of desegregation, and three board elections. The school district's reform plan included: improving outcomes in adulthood, changing educational outcomes, changing quality of teaching and learning, implementing school site-reform and community involvement strategies, and developing district and community supports for change. Connell and Klem (2000) found the theory of change approach to planning the above listed initiatives

helpful in three ways. The approach helped to make plans for urban education more sensible – more grounded in current research, in demonstrated best practice, and in local experience. It instilled a local knowledge base and collective change ethic that made implementation of the reform more likely. The approach also resulted in more rigorous, timely and useful evaluation of reform plans.

Change is extremely difficult for many in the educational environment, especially when working with a diverse community of learners. Leaders within organizations who possess a solid understanding of change can provide stability throughout the process of change (Fullan, 2001). Hargreaves (2005) interviewed fifty teachers of various ages and a wide range of teaching experiences to elicit their responses to education change. His research confirmed that "age, career stage and generational identity and attachment matter too" in addition to personal development and personality (Hargreaves, 2005, p. 981). Understanding how educators respond to change is crucial in orchestrating change efforts: "in a world of unrelenting and even repetitive change (Abrahamson, 2004), understanding how teachers experience and respond to educational change is essential if reform and improvement efforts are to be more successful and sustainable" (Hargreaves, 2005, p. 981).

Strebel (1996) stated that many change efforts tend to fail. A reason for this lack of success is the difference between the leadership's perceptions of change and the employees' perceptions of change. Correspondingly, Kotter and Schlesinger (2008) explained:

> Few organizational change efforts tend to be complete failures, but few tend to be entirely successful either. Most efforts encounter problems; then often take longer than expected and desired, they sometimes kill morale, and often cost a great deal in terms of managerial time or emotional upheaval. More than a few organizations

> have not even tried to initiate needs changes because the managers involved were afraid that they were simply incapable of successfully implementing them. (p. 2-3)

Fullan (2001) noted that leadership "is not mobilizing others to solve problems we already know how to solve, but to help them confront problems that have never yet been successfully addressed" (p. 3). Where does personalized learning and the blended learning model fit into this leadership moment? Does the model of blended learning confront problems that have not been addressed? The blended learning model supports students and teachers confronting diverse problems that are relevant and have interest to them, and allows for personalization that can focus on solving these problems.

Levinson (1994) proclaimed that two of the factors that can lead to organizational catastrophe are poor change management and failure to handle complexity. Fullan (2007) suggested that the implementation of change typically fails because of poor assumptions made on behalf of the leadership and the simple fact that managing change is a complex task. Fullan (2008) explained that transparency is important to the change process, as it provides clarity to the change process. Leaders within education must be transparent when managing change. These two notions of supporting and approaching change are key to the increased implementation of personalized learning while incorporating the blended learning model. If it is assumed the knowledge and skills teachers need to teach using this model are not utilized within planned initiatives, the change implementation will fail. If teacher leaders are not transparent in the reason for this change and do not meet the needs of individual teachers, the change initiative will also fail.

Summary

This chapter was provided to gain a deeper understanding of theories and the key components of each, that support a blending learning classroom environment. The theory of learning presents the initial behaviors that support continued learning throughout the lives of individuals. It provides a step-by-step learning framework, which supports personalized learning for students. Online learning and more specifically blended learning are examples of disruptive innovation because of the relationship between educational technology and individual educational outcomes. Disruptive innovation occurs when an idea or product replaces the original with something that is simple that everyone can use and access. Blended learning per the disruptive theory could potentially change education, as we currently know it. Transformative learning represents learning that provides for ways of thinking and acting that more closely match the current environment. Blended learning allows for individuals to continuously assess and reformulate their perspectives to contribute to their learning. The blended learning model and the theory of change supports students and teachers confronting problems that are relevant and have interest to them, and allows for personalization that can focus on solving these problems.

In Chapter 3, I synthesize existing literature and empirical studies that address blended learning and related topics. The key topics for this section involve: 1) blended learning, 2) the blended learning environment, 3) personalized learning, 4) 21st century skills and technology, and 5) professional learning for teachers.

CHAPTER 3

REVIEW OF LITERATURE

Technology is often placed in classrooms with assumptions that teachers are prepared to use these tools to support learning. Yet, most teachers require knowledge and skills to individually engage and personalize students' learning in classrooms purported to be blended learning environments. To address this issue, the study explored the experiences of teachers in blended learning classroom environments to determine what can be learned from these teachers that benefit others in the implementation of blended learning. While I have had much experience in supporting teachers in blended learning environments, I anticipate great interest in the results of the study so that new programs can be developed and specific teaching practices can be implemented.

The literature search for the study included published, peer-reviewed journal articles from across the world published after 2001. The search encompassed conceptual and theoretical articles, and empirical studies as well as books. Electronic journal databases, through the University of Missouri-Kansas City library system and the University of Kansas library system, used for the search included Academic Search Complete, ERIC, JSTOR, and Google Scholar. The following keywords were used for the search query: blended learning/instruction, hybrid learning/instruction, blended learning environment, learning theory, culture and learning, diverse learners, professional learning/development for teachers in a blended environment, and 21st century skills/learning.

Over three hundred fifty citations were obtained using the search criteria above. The first step in filtering through the citations was selecting only empirical studies. Once the citations were sorted each study's abstract was analyzed. The study was then either selected or removed. If the study was selected, the full text was read and coded to identify themes from the literature. This process resulted in ninety-four studies being analyzed.

Thus, the purpose of this literature review is to gain a deeper level of understanding of blended learning and the key components that support a blending learning classroom environment. This Chapter is divided into sections that present the following key topics: 1) blended learning, 2) blended learning environment, 3) personalized learning, 4) 21st century skills and technology and 5) professional learning for teachers. The instructional strategy of blended learning is the first topic presented. Blended learning is the intentional combination of online instruction and traditional classroom instruction. Subsections for this topic include: blended learning as a model of instruction, the definition of blended learning, models of blended learning, and implementation of blended learning. The second topic shared is the blended learning environment. The environment is a change from the traditional classroom setting and this impacts both teachers and students. Subsections include: online learning compared to traditional classroom instruction, support of teachers in an online environment and the benefits for students. Personalized learning is the third section. The instructional model of blended learning is used to personalize learning for all students with an emphasis on meeting the needs of diverse learners. This section is followed by a discussion of 21st century skills and their implications for student preparation in schools implementing blended learning. The chapter concludes with the topic of professional learning for

teachers. Subsections for this topic include: exploring teachers' experiences using blended learning, the need for professional development for teaching diverse learners, a framework for blended learning competencies, and how to support teachers in a blended learning environment.

Blended Learning

Blended learning is a relatively new instructional strategy that has evolved as the Internet and computer technology has become more available in the school setting. As online learning opportunities increased and began to substantiate that online learning is at least as effective as traditional learning (Cavanaugh, Gillan, Kromrey, Hess, & Blomeyer, 2004; Palczewski, Hordyk, Keenoy, & Emeott, 2012; United States Department of Education, 2010), schools started to offer and experience similar results with blended learning opportunities as part of their core programming for all students (Kafer, 2013; Matheos, Daniel, & McCalla, 2005; Staker & Horn, 2012; Watson, Murin, Vashaw, Gemin, & Rapp, 2011, 2012, 2013). The prevalence of blended learning opportunities in traditional schools has become so customary that Watson, Murin, Vashaw, Gemin, & Rapp (2011) crowned blended learning created by individual school districts as the fastest-growing and largest category of online learning.

While there are many definitions of blended learning, it can be described as a combination of a traditional classroom and online learning (Rovi & Jordan, 2004). Initially this was wider spread in higher education and has more recently become an instructional strategy used in K-12 classrooms. The teaching strategy has also been used to support teacher professional development. Educators are expected to teach differently because students have grown up in a different world that is technology and information

rich. Access to information can happen in many alternative locations. Instruction in schools has been redesigned with a focus on learning with college and career readiness at a faster pace and with more efficiency (Garrison & Kanuka, 2004). Blended learning provides opportunities for online instructional delivery for a portion of the day to provide for deeper learning and higher productivity. Blended learning is a growing instructional trend that, when implemented effectively, has provided the benefits of teacher interaction while also offering students learning opportunities (Osguthorpe & Graham, 2003). Students have access to online resources and curriculum usually supported by a learning management system. These materials allow them to work at their own pace and research information more deeply. Teachers can design courses that give students the best of both traditional and online learning.

Blended Learning as a Model of Instruction

Blended learning has been shown to be an effective mode of instruction (Garrison & Kanuka, 2004; Garrison & Vaughn, 2008). The North American Council for Online Learning (iNACOL) predicted that the blended learning model will become the learning model of education in kindergarten-twelfth grade (Means, Toyama, Murphy, & Baki, 2013). Barbour, Archambault, and DiPietro's (2013) research shows a trend in that direction with data showing that blended learning has presented the most substantial growth of any educational model presently being applied in kindergarten-twelfth grade. At the college level, there have been additional studies about this type of instruction (Bonk & Graham, 2006; Halverson, Graham, Spring, & Drysdale, 2012; Osguthrope & Graham, 2003). As colleges and universities offer more online courses, kindergarten-

twelfth grade educators must utilize strategies that support this trend as they prepare for their students for college and careers.

The U.S. Department of Education report on Evaluation of Evidence-Based Practices in Online Learning found that research shows students with access to a combination of online and face-to face instruction excel in relation to peers who have exposure to only one method of instruction (2014). While many challenge online learning's lack of physical, face-to-face instruction and learning, there is less resistance to blended learning, which marries the best of both worlds by capitalizing on what digital natives seek in learning experiences and providing the necessary supports and learning opportunities of traditional learning environments (Niecmiec & Otte, 2010; Rudi, 2012; Tucker, 2012). The focus of literature regarding online learning seems to hone in on the technology used to deliver course content. With blended learning however, the focus shifts to honor teachers' face-to-face interactions with students (Tucker, 2012).

Blended learning began with the distributed learning environment, also known as distance learning (Daniel, 1997). Bonk and Graham (2006) use four elements, called learning interactions. These include: space, time, fidelity, and humanness. One way to examine the spaces where blended learning occurs is through the difference between face-to-face and distributed learning environments. The four dimensions of learning interaction outlined by Bonk and Graham (2006) each appear as a continuum and include; space, time, fidelity, and humanness. Understanding these dimensions helps with navigating language that appears in the blended learning literature.

Space is described as one of the four dimensions that define interactions in face-to-face and blended learning environments, and per Bonk and Graham (2006), is the

physical distance between the learners and where the instruction takes place. When courses are taught in a face-to-face environment this space is described as "live" and "physical", since the learner is in the classroom where instruction is taking place. Courses taught in an entirely virtual environment are defined as distributed learning. These include online courses or those viewed as recordings at an off-site venue. The term "mixed reality" appears at the midpoint of the continuum describing space in a blended learning environment. Mixed reality is comprised of live and virtual learning environments. The notion of time is where blended learning becomes increasingly flexible for students.

Much of the blended learning discussion centers on time. The terms "synchronous" and "asynchronous" learning are opposites. Synchronous learning occurs when the participants are in the same place at the same time (iNACOL, 2011). Classroom lectures and live course videos or closed-circuit television feeds are examples of synchronous learning environments. In contrast, asynchronous learning occurs when time separates communication exchanges between participants. Online discussion threads, email, or recorded video lectures are examples of asynchronous learning environments. In 2011 iNACOL published the Online Learning Definitions Project with the intent to create a shared understanding of blended and online learning initiatives, practices, and policies. Synchronous and asynchronous learning were defined as part of the Online Learning Definitions Project (iNACOL, 2011).

Depending upon how a course is conducted, the next element, fidelity, is measured by the enrichment of the body's five physical senses. In the past, face-to-face instruction was the only way to access all the senses, leaving only sight and sound

available to distributed or asynchronous learning environments. As technology develops, touch, sight, and sound can all be accessed from remote locations, leaving only taste and smell within the realm of the face-to-face classroom experience.

High fidelity learning environments remain on the face-to-face instruction side of the scale, where students can potentially experience the lesson through all five of the senses. On the other side of the spectrum, an example of a low fidelity-learning environment is reading a textbook. An example of a medium fidelity-learning environment as described by Bonk and Graham (2006) involves having access to audio. Many courses now employ technology and methods to heighten the senses in a high-fidelity learning environment. These advancements are possible through the development and speed of technology delivery, innovative lesson planning, and Learning Management Systems (LMS).

An LMS can be thought of as online spaces used to organize course materials and can be used to support face-to-face, distributed, or blended instruction. The online platform generally requires a login authorization to access a specific course where readings, videos, discussion groups, and private messaging options are available to course participants. Importantly, implementation of digital resources in classrooms has significantly reduced the gap between high and low fidelity as well as the differences between distributed and face-to-face learning environments (Bonk, & Graham, 2006).

The fourth and final dimension that differentiates distributed and face-to-face learning environments is humanness. When participants are in a learning environment together, the environment is labeled "high human". When participants are not in the same space and are instead using computers, televisions, and online tools to facilitate the

learning process the environment is labeled "no human" or "high machine" (Bonk, & Graham, 2006).

Defining Blended Learning

Just as stakeholders struggle to develop definitions for online learning and its associated programs to accurately portray each term, defining blended learning proves to be at least as difficult (Watson, Murin, Vashaw, Gemin, & Rapp, 2013). Barbour and Ferdig (2012) define blended learning as something that "occurs whens students are enrolled in a brick-and-mortar school but their teachers make use of online resources as part of their school" (p.56); however, this definition could apply to merely using technology in the classroom. Rovi & Jordan (2004) defined blended learning as a combination of traditional classroom and online learning that contains some of the benefits of learning online without the loss of traditional contact. iNACOL defines blended learning by program or by course; includes clarification that it combines online and face-to-face instruction, which is enhanced by a learning management system; and values the teacher as a facilitator of learning and increased engagement among students, between student and content, and between student and instructor (iNACOL, 2010; Watson, Murin, Vashaw, Gemin, & Rapp; 2010).

In their 2013 report, *Is K-12 Blended Learning Disruptive? An introduction of the theory of hybrids,* Christensen, Horn, and Staker described research derived from over eighty organizations and one hundred teachers engaged in blended learning tactics. These authors depicted blended learning as:

> A formal education program in which a student learns at least in part through online learning 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. The modalities along each student's learning path within a course or subject are connected to provide an integrated learning experience. (p. 7)

The phrase "with some element of student control over time, place, path, and/or pace" was added to distinguish blended learning from technology-rich instruction (Staker & Horn, 2012, p. 6). Stahl (2002) clearly outlined the four dimensions of time, place, path, and pace. Time means that learning is no longer limited to a traditional school day or school calendar year. Place refers to learning that is no longer limited to the traditional classroom. Path can be defined as learning that is no longer limited to the face-to-face strategies used by the teacher. Pace is described as learning that is no longer limited to the pace of the entire class, but is individualized. The second part of the definition states that the learning must be "supervised" and take place off campus. This is to make the distinction between students learning full-time online at a brick-and-mortar location and off campus such at the student's home or self-chosen location. An instructor in the classroom setting provides instructor supervision, rather than a parent or other adult responsible for the educational instruction of the student (Staker & Horn, 2012). As the concept of blended learning evolves, the definitions evolve as well.

To define a school or a classroom as using the blended learning model, it means that the curriculum should be presented in a blended format. Students attend a school physically for activities and lessons. A blend of traditional classroom instruction and technology is used in their lessons and activities. The key to a blended learning model is to demand adaptive, rigorous, mastery-based student learning (Vanderkam, 2013).

Several different models exist to support blend learning, with some emphasizing more face-to-face delivery and others more online delivery (Fleck, 2012; Hastie, Hung, Chen, & Kinshuk, 2010; Laster, 2010). Teacher preparation for implementing the

strategy of blending learning should include opportunities to discuss decision factors that can help teachers choose the most appropriate model, including: "course instructional goals, student characteristics, instructor experience and teaching style, discipline, developmental level, and online resources" (Dziuban, Moskal, & Hartman, 2005, p. 4). Hastie, Hung, Chen, and Kinshuk (2010) discovered that, to best support their goal of international collaborations, a model that allowed teachers and students to freely choose and participate in both physical and online classrooms worked best. Setting is another decision factor to consider, since a lack of student computer technology or Internet access in the home can detract from the effectiveness of a blended model (Yapici & Akbayin, 2012), and may necessitate the choice of school-based blended models.

Models of Blended Learning

Four models of blended learning have emerged over the course of the past decade (Christensen, Horn, & Staker, 2013: Staker &Horn, 2012). These four models include: Rotation, Flex, A La Carte, and/or Enriched Virtual.

Rotation. Within the first version, rotation, there are four sub-categories of implementations: station, lab, flipped, and individual. A rotation program within a given course or subject operates in a way that students rotate on a timed schedule or at the teacher's discretion between different learning modalities, at least one of which is web-based or online. This model involves students dividing their time "between learning modalities" such as teacher-led, instruction, online learning, independent tutoring, or group work (Bernatek, Cohen, Hanlon, & Wilka, 2012: Christensen, Horn & Staker, 2013, p. 28). This could be set-up in groups where a small group is meeting with the teacher, another group is working paper-and-pencil, while another group is accessing

online content. Another possibility is students may be rotating between online learning and whole class instruction.

Station rotation. The first sub-category of the model is station rotation. The station-rotation model requires students move in groups from learning station to learning station. Station rotation can also be effective for small-group instruction, group projects, tutoring, and written assignments.

Lab model. The second sub-category is the lab model. This model utilizes a computer lab in combination with other classrooms for multiple learning opportunities. This rotation is different from the station-rotation because students rotate to areas outside of the classroom.

Flipped rotation. The third sub-category is the flipped rotation. This involves students who rotate between teacher-guided instruction on campus during the school day and online content and instruction of the same subject from another location (such as home) after school. This model allows students to have control over time, place, path, and/or pace because the student chooses the location for online learning. An example of this might be to replace your traditional homework with new learning instead of just continued practice.

Individual rotation. The fourth sub-category is individual rotation. In individual rotation students move at their own pace using their own material individualized for just them. Schedules are set-up based upon data and the needs of individual students. In this version, most instruction is provided online in an individualized and differentiated form with adult support. Students rotate to a new station when the computer results call for a new learning mode (Staker & Horn, 2012).

Flex. This model is when online learning is the backbone of student learning. Students still learn mostly in a brick-and-mortar location. However, they are accessing content online for most the time. Teachers are still present to help and guide the student; they are just accessing material online. The instructor or other adults provide support through small group instruction, group projects, and tutoring as needed. Some implement this version with more face-to-face support than others do (Staker & Horn, 2012). This can be seen in many elementary schools where the content is purchased and it is individualized for each student. Students access their specific material and teachers support them in that learning, yet content is delivered totally online.

A la Carte. This is a model when a student takes a course entirely online that accompanies the experiences they are receiving in a brick-and-mortar setting. This still differs from a virtual school setting since they are still gaining some experiences in a face-to-face setting. Students self-blend some online courses and take others face-to-face with their teachers (Staker & Horn, 2012). One example of this is at the high school level where there may be students who are in an advanced foreign language course. There are not enough students to hire a teacher so they attend an online course, still attending the brick-and-mortar high school for their other courses.

Enriched virtual. This model is derived from the entirely online model. It began as a virtual experience and remains mostly virtual, however the student may occasionally need to meet with their teacher face-to-face. This model is a whole-school experience, not a course-by-course model like the self-blend model (Staker & Horn, 2012). This is different from flipped classroom model and the other models because most of the content is done virtually, with just the occasional learning experience face-to-face with a teacher.

In River Valley Public Schools, this model is used for students at the elementary through high school level attending the virtual school. Content is delivered online at their home; however, they attend school every couple of weeks to meet with teachers and classmates.

Blended learning capitalizes on the instructional expertise of the traditional classroom teacher and the varied resources of content and time that only content providers and the Internet supply. Although some question the increased isolation that online learning can provide, blended learning offers opportunities for increased interaction among students and teachers by extending the school day as well as the individualized interaction that technology facilitates (Bailey, Schneider, & Vander Ark, 2013: Bergman & Sams, 2012)

Implementation of Blended Learning

The decision to adopt a model is often out of individual teachers' hands, as a given school or district may choose a model for full-scale implementation, and this path may prove more efficient in terms of standardized preparation and support. Regardless, teachers will need further preparation in terms of logistics and new roles. Since many blended models require classroom instructors to collaborate with co-instructors, intervention specialists, instructional aides, or lab facilitators, (Bernatek, Cohen, Hanlon, & Wilka, 2012) teachers will need to know and understand what their role is (Bakia, Anderson, Heying, Keating, & Mislevy, 2011; Barenfanger, 2005).

One of the key reasons why teachers and schools should consider implementing the blended model is for the ability to better support diverse learners. For example, many researchers have pointed out that blended environments provide opportunities to differentiate instruction and individualize feedback for special needs and other targeted

learners such as students learning a second language (Fletcher, Tobias, & Wisher, 2007; Horn & Staker, 2011; Lee, 2005; Mendez & Gonzalez, 2010; O'Byrne, Securro, & Cadle, 2006; Vanderkam, 2013; Williams, 2001; Yang, Chuang, Li, & Tseng, 2013). Data systems that track student goals and performance over time and drive differentiation are increasingly part of comprehensive blended solutions. In addition, blended learning can assist inexperienced and young learners who may benefit from exposure to online and higher learning before transitioning to new schools and universities (Akkoyunlu & Yilmaz-Soylu, 2006; Hamisch & Taylor-Murison, 2012); and students who may benefit from work across disciplines (Cooner, 2011; Guthrie, Wigfield, & VonSecker, 2000).

Blended learning, the artful combination of computerized instruction (personalized for each student) with small group instruction, offers students something closer to tutoring than traditional lectures do (Vanderkam, 2013). Linking traditional classroom teaching practices, such as immediate assessment and feedback to computerized results, is one way in which this innovative approach can transform education. The mix of the best digital and human teaching strategies is what makes the blend truly effective (Vanderkam, 2013). Blended learning classrooms provide more individualization and differentiation so that students can fill in gaps with computerized instruction. Blended learning offers all students the opportunity to learn concepts from many different approaches that make acquiring information appropriate and comfortable. Personalized learning provides opportunities to engage in a manner relevant to learners' abilities and interests so they can achieve their full potential (U.S. Department of Education, 2005). When a student gets frequent practice on a skill with constant feedback, this will lead to mastery (Vanderkam, 2013). It is important for teachers to

understand their students' capabilities and how much learner control they can handle (Barenfanger, 2005), and they should note that students develop autonomous behaviors at different speeds (Snodin, 2013).

In *the Rise of K-12 Blended Learning*, authors Horn and Staker (2011) of the Innosight Institute, a global strategy and innovation-consulting firm committed to advancing the theory and practice of innovation, profiled forty blended learning programs throughout the US. The profiles provided brief case studies of organizations that were beginning to blend online learning with supervised brick-and-mortar settings (Horn & Staker, 2011).

Schools implementing blended learning have become an innovative hybrid of face-to-face and online learning. Enlarged City School District of Middletown (Middletown) who has implemented the station rotation model shows students at elementary schools using blended learning in the district have shown greater growth than students in traditional classrooms in the district in both reading and math, based on Northwest Evaluation Associations (NWEA) Measures of Academic Progress (MAP) scores (Evergreen Education Group, 2015). Students in blended classrooms outperformed students in traditional classrooms by eighteen percent on Spring 2015 NWEA MAP reading scores and by seven percent on Spring NWEA MAP math scores. This growth has led to an expansion to all the elementary school math and reading classrooms (Evergreen Education Group, 2015).

On some days, the teacher may provide whole class instruction for a brief period at the start of the block and then divide students in a traditional three-station rotation for the remaining time. On other days, the teacher may start with a station rotation, bring the

students together for a whole class check-in, and then have some students work online content whole the teacher leads small intervention groups with other students.

Horry County Schools (HCS) implemented either the station rotation or individual models of blended learning and have seen improvement in growth scores in math and reading since implementation. Teachers and administrators across the district participate regularly in professional development to help them understand how to teach effectively in a blended learning setting. In addition, HCS hired six digital-integration specialists to support existing staff with the blended learning implementation. Each building has an instructional coach that collaborates with digital-integration and content-learning specialists to support blended learning in the classrooms. Teachers develop lesson plans that detail types of small-group differentiated instruction, collaborative work, and practice and review of concepts using online content, as well as how students will be grouped based on data. In middle school reading, the percentage of students meeting district growth targets increased between four and ten percentage points between Spring 2014 and Spring 2015. In comparison, growth scores in language, which did not use a blended learning approach, fell by 0.4 percentage points (Evergreen Education Group, 2015).

Spring City Elementary Hybrid Learning School implemented blended learning and the station rotation model and has seen an increase in all grades and subjects. In this program, the focus has been on staff professional learning. Teachers participate in nine full days of professional development to prepare themselves and their classroom for the transition into blended learning. The students participate in three rotations – individual, collaborative, and direct instructions every twenty minutes and then change subjects after

a full set of rotations. Students spend at least eighty percent of the school day learning in the blended model and have some control over their pacing (Evergreen Education Group, 2015)

Rocketship Education is a charter elementary school that specializes in blended instruction in California. This school system serves mainly low-income students. During a sixteen-week study conducted by the Stanford Research Institute, students receiving five hours of online mathematics (rotation model) instruction along with mostly face-to-face instruction were compared to a group that received twenty-two hours of online mathematics with less face-to-face instruction. After using DreamBox online mathematics software, the group of students that worked twenty-two hours on mathematics showed significant gains on NWEA's overall mathematics test and the measurement and geometry subtests. Rocketship differentiates the learning experience so that the curriculum is adapted to students and helps them master the skills they need to work on before they can proceed (Watson, Murin, Vashaw, Gemin, & Rapp, 2011).

Blended Learning incorporates the practice of online learning and traditional classroom instruction. The blended environment puts students in control of the learning that is occurring whether it is online or in a traditional way. The diverse needs of each student are met when students are in control of their own learning. Blended learning allows teachers to specifically design instruction based upon these needs while incorporating both online and traditional instruction. The design elements of blended learning contribute to a unique learning environment, which is different from the traditional classroom.

Blended Environment

Traditional classrooms with face-to-face instruction have been the primary mode of instruction for students. In 2001, eighty percent of student instruction was conducted in a traditional classroom setting (Singh & Reed, 2001). Moreover, Watson, Murin, Vashaw, Gemin & Rapp (2013) contend more than three-fourths of all districts across the country offer some type of online or blended courses. The days of rows in the classroom, teacher in the front of the room, and students gaining knowledge from a teacher lecturing are becoming a way of the past. Traditional classrooms are becoming more blended since students can now access information anywhere and at any time. Kindergarten-twelfth grade education needs to continue to meet the needs of their diverse 21st century learners by incorporating more of a blended environment to personalize their instruction (Horn & Staker, 2011; Vanderkam, 2013; Yang, Chuang, Li, & Tseng, 2013). In a traditional classroom setting, it is the norm for students to be directed where and when to learn then to change topics of instruction at the sound of a bell. However, the twenty-first century has offered new and innovative online resources for learning and collaboration. Effective use of these online resources provides opportunities for major advances in quality, effectiveness, convenience, and even cost of educational experiences. Recently, learning experiences have evolved to include "blended" combinations of both traditional and online learning methods, which can have a positive impact on learning practices (Singh & Reed, 2001).

iNACOL reported in 2010 that Kansas had no fully blended kindergarten-twelfth schools (Wicks, 2010). River Valley Public Schools in 2016 has five hundred teachers teaching in a blended environment, which is half of the total classrooms in the K-12

school district. Online access to information is available to students in a variety of environments. Not only is online information usually free and easy to access, it is easily also kept up to date. In the 2013 report *Keeping Pace K-12 With Online and Blended Learning* by the Evergreen Education Group, students nationwide are increasingly taking classes online at least part of the time. In the 2011-2012 school year, nearly 620,000 students were enrolled in single online courses in twenty-eight states, an increase of sixteen percent from the year before. Additionally, within the report, the California Department of Education reported 66,475 students taking at least one online course (an annual increase of seventy-one%) and 20,022 students were reported taking at least fifty percent of their classes online an increase of forty percent (Watson, Murin, Vashaw, Gemin, & Rapp, 2013). These statistics support the need to research the specific knowledge and skills teachers are expressing they need to have to teach in this type of environment. Garrison and Kanuka (2004) perceived that blended learning can be transformative because it forces teachers to reflect on traditional teaching practices and reorganize the current structure of teaching and learning, if they have the knowledge and skills to do so.

Online Learning Compared to Traditional Classroom Instruction

Numerous studies have demonstrated that online learning programs can be as effective as traditional classrooms regarding student learning (Cakir, Delialiogh, Dennis, & Duffy, 2009; Kara, 2008; Tienken & Wilson, 2007). When the use of information and communication technology (ICT) is combined with face-to-face instruction in what is referred to as a blended learning or hybrid environment, students generally tend to outperform students who remain in purely face-to-face classrooms (Means, Toyama,

Murphy, Bakai, & Jones, 2009). While most blended learning programs can be found in higher education programs, recently some kindergarten-twelfth grade public schools are being designed and implemented to specifically leverage technology through a blended learning school model. Means, Toyama, Murphy, and Baki (2013) share a major reason for using blended learning approaches is to increase the amount of time that students spend engaging with the instructional materials. Their findings do not support just putting an existing course online, but they do support redesigning instruction to incorporate additional learning opportunities online while retaining elements of face-to-face instruction. The study concluded that on average, students in online learning conditions performed modestly better than those receiving face-to-face instruction. The advantage over face-to-face classes was significant in those studies contrasting blended learning with traditional face-to-face instruction but not in those studies contrasting purely online with face-to-face conditions.

Jia, Chen, Ding, and Ruan (2012) found that blended learning works well for middle school language arts, where the simple addition of lab-based vocabulary quizzing led to significantly greater gains in vocabulary acquisition compared to a control group. Horn and Maas (2012) report survey data from California schools that suggests that blended learning is used more to teach mathematics than other subjects in that setting; while no elaboration is provided, it is possible that opportunities to view and play back video of teachers working math problems, paired with opportunities to practice at one's own pace, serve some math learners better than does simply following along in traditional lecture mode.

This type of blended environment allows new instructional approaches to be used

by teachers to personalize the learning for their students. Online learning makes it possible to personalize this instruction by supporting instructors and students in making connections with material both in school and outside of school. This type of learning permits students to work at their own pace rather than just completing work to "cover material" (Singh & Reed, 2001). Using a blend of online resources and traditional teaching is a way to balance instructional time, reorganize curriculum, and provide deeper learning opportunities (Gullen & Zimmerman, 2013).

Support of Teachers in an Online Environment

The United States Department of Education (2010) report titled, *A National Education Technology Plan: Transforming American Education; Learning Powered by Technology,* lists five essential areas that must be of a focus in the kindergarten-twelfth grade educational teaching environment to support teachers in a blended learning classroom environment. The report was initiated in the spring of 2009 to capitalize on the opportunities created by technological advancements and new research on learning that has emerged since the publication of the last national technology plan in 2004. The goal of the report was to create a vision for strategic application of technology through the education system in support of student learning and achievement. This differs from the 2004 report, which focused on software and hardware in schools along with laws around the use of the Internet. In the 2010 report, the essential areas include: learning, assessment, teaching, infrastructure, and productivity.

Learning is one of the essential areas in the US DoED (2010) report. The report describes a model of 21st century learning that calls for

> Engaging and empowering learning experiences for all learners. The model asks that the focus be on what and how we teach to match what people need to know,

> how they learn, where and when they learn, and who needs to learn. It brings state-of-the art technology into learning to enable, motivate, and inspire all students, regardless of background, language, or disabilities, to achieve. It leverages the power of technology to provide personalized learning instead of a one-size-fits-all curriculum, pace of teaching and instructional practices. (p. 6)

The challenge for our teachers and educational system is leveraging this technology during the school day so that it mirrors the students' life outside of school. Teachers need to be comfortable with this on-going change and be supported in their own knowledge growth. Teachers will need support in their professional learning to enhance their current teaching practices (Christensen 2013; Clement 2007; Horn 2011, 2012; iNACOL, 2011; Staker, 2012). Only when this occurs will students be empowered to learn in this way.

Truesdell Education Campus in the District of Columbia Public Schools is a 21st century learning environment. The school has quickly become one of the most innovative elementary schools in the region, with the academic gains to prove it. At Truesdell, a data-driven, personalized learning culture has erased much of the status quo of the traditional education establishment, transformed the role of teachers, and driven widespread improvement (Bateman, 2016). A key component to this improvement is the personalized learning time. Teachers participated in professional development to learn about models to personalize learning. The focus was on adaptable instruction, using constant real-time data, freeing up educators to work with individual students and self-directed student learning. High levels of student engagement at Truesdell not only benefit students academically but also socially and emotionally. Further discussion on professional learning is discussed later in the chapter.

A second essential area outlined by the US DoED (2010) report is assessment. A 21st century learner requires "new and better ways to measure what matters, diagnose

strengths and weaknesses in the course of learning when there is still time to improve student performance, and involve multiple stakeholders in the process of designing, conducting, and using assessment" (p. 7). Teachers incorporating technology using the blended learning model can use these types of assessments to collect evidence of student knowledge and abilities. This collection of data or evidence guides what is being taught for individual students, changing direction based on each of their specific learning need. Formative assessments can be used to diagnose and modify the conditions of learning and instructional practices, while at the same time determining what students have learned. Assessment is much more than a score; the data and information support the need for interventions and extensions within the classroom for each individual student. This collection of data can be used to create a system of interconnected feedback for students, parents, educators, school leaders, and administrators. Without this information, it becomes very difficult to personalize instruction for students or provide support in tools and training for teachers (Christensen 2013; Clement 2007; Horn 2011, 2012; iNACOL, 2011; Staker, 2012). The Gates Foundation (2014) reported,

> Teachers believe that knowing their students well is fundamental to effective instruction. Data that matter to teachers are much more than just annual test scores. Data that matter include rich information about students' academic, social, behavioral, and cultural experiences that can help strengthen the connection between teachers and students and shape how learning takes place. (p. 3)

The Enlarged School District of Middletown, New York is an example of how to transform a once struggling district. Middletown is improving academically due to the implementation of personalized learning using the blended learning model. They have used personalized learning to narrow achievement gaps. An example of this improvement

can be seen in their graduation rates. Over the last nine years, rates have increased from fifty-one to eighty percent. Mesecar (2015) found;

- Ninety-one percent of teachers in the blended learning program report they are more effective.
- Three-fourths of students in Middletown's blended learning program outperform their peers in non-blended classrooms in math.
- Students improved reading achievement by one hundred thirty-six percent overall on the NWEA MAP assessments
- Eighty-nine percent of teachers report an increase in student engagement. (p. 2)

Middletown has also used technology to help teachers effectively address the wide distribution of learning needs of their students. In a survey given to teachers at Middletown, they found seventy-four percent of teachers believed that most their students can articulate why they are working on specific content because of the technology support. This understanding of the why supports the notion that they are meeting each individual student's needs.

Connected teaching is the third element addressed in the US DoED report. To build the capacity of our teachers, educators must enable a shift to a model of connected teaching. The US DoED (2010) report,

> in such a teaching model, teams of connected educators replace solo practitioners and classrooms are fully connected to provide educators with 24/7 access to data and analytical tools as well as to resources that help them act on the insights the data provide. (p. 8)

With an expectation of effective teaching and accountability for professional educators being a critical component of transforming our education system, teachers must be connected. To support this connection among educators, professional development should be provided in a collaborative way that expands opportunities for teachers to use technology (Christensen 2013; Clement 2007; Horn 2011, 2012; iNACOL, 2011; Staker,

2012). Classroom educators are fully connected to learning data and tools for using data. They are connected to content, resources, and systems that empower them to create, manage, and assess engaging and relevant learning experiences both inside and outside of school. It must now be a team profession, not an individual profession.

There is still a gap in technology understanding and this influences programs and curriculum development (Christensen, 2011; Horn, 2013; US DoED, 2016; Vanderkam, 2013; Vignare, 2007; Watson, 2008, 2010). Many educators do not have the same understanding of and ease with using technology that is part of the daily lives of professionals in other sectors. This gap prevents technology from being used in ways that would improve instructional practices and learning outcomes. Being cognizant of this gap can lead organizations in becoming more innovative in ways to support educators in their profession.

Mesecar (2016) shared how one district has incorporated personalized learning to prepare students for an increasingly competitive, but collaborative world. The district already had high scores on their assessments, but found they were missing the connection to the world. They created a vision and model to empower all students to make meaningful contributions to the world through solving authentic, challenging problems, creating public products, and connecting with the world to make meaningful contributions. Students and teachers were connected globally through technology to support their teaching and learning. This connection gave access to valuable tools and information, with others with whom they collaborate, and with audiences beyond the teacher.

Infrastructure is equally as important in today's educational setting. Infrastructure in not just limited to the technology components; it includes people, policy, and learning resources. The report states "although we have adopted technology in many aspects of education today, a comprehensive infrastructure for learning is necessary to move us beyond the traditional model of educators and students in classrooms" (US DoED, 2010, p. 9). The new model of learning brings together teaching teams and students anywhere in the world where people have access to devices and an Internet connection. This model is always accessible available to students, educators, teachers, and administrators regardless of their location or time of the day. An infrastructure for learning allows for new ways of capturing and sharing of knowledge while motivating students and educators in ways that were not possible a few years earlier. A blended learning model, can transform how educators approach both teaching and learning.

Productivity is the final essential element to transform our educational environment. The report states, "we must rethink basic assumptions and redesign what we are currently doing. We must apply technology to implement personalized learning and ensure that students are making appropriate progress through our educational system" (US DoED, 2010, p. 10). Technology alone cannot transform education. The technology plan acknowledged the importance of the educators who must continue to share the responsibility. Personalized learning must not only occur for our students but also for teachers and other educators. When providing professional learning opportunities, individual needs must be considered and addressed. Understanding the needs of students and teachers can only be addressed by listening to their stories and experiences. Educators must then make changes/enhance our practices based upon these

stories and experiences. A one-size-fits-all model no longer works for either students or teachers. It is important to know what specific components must be implemented within our professional development opportunities to support our current teachers.

Oliver, Herrington, and Reeves (2006) note the following:

> Creating effective [blended] learning settings ... requires a high degree of creativity and organization on the part of the teacher as well as the instructional designer, and often it is very hard to provide the necessary supports and scaffolds learners need. (p. 502)

Personalized professional development for teachers will identify the specific components missing from their knowledge base to successfully support students in the blended learning environment. The model of blended learning must be used when providing this professional development so teachers fully experience what is means to personalize instruction.

Benefits to Students

Online learning puts the learner in control, therefore, changing the meaning of learning time (Cavanaugh, Gillan, Kromrey, Hess, & Blomeyer, 2009). When students are in control of the path, place, and/or pace, they decide how much time is spent on each activity and when to spend the amount of time on that activity. This allows students to spend the exact amount of time they feel they need but also allows them to access teacher support when needed. When a course is self-paced and flexible, students learn to complete the course at a pace that holds their interest and at a faster completion rate. Increased time on task has been associated with improved student learning (Cavanaugh, Barbour, & Clark, 2009). Blended learning is a potentially powerful way of learning because it could change the quality of student time spent learning. Online learning additionally allows class time to focus on teacher-student interactions (Lovett, Meyer, &

Thille, 2008).

Creating a sense of community in a blended learning environment is key to its success. Garrison and Vaughan (2008) contend that creating community in a blended learning setting requires attention to four areas: design elements that allow for open communication, create trust, and support critical reflection and discourse; facilitation of discourse that emphasizes purposeful and collaborative communication and that supports a structured progression of inquiry; traditional direct instruction in the forms of a strong teacher presence that not only ensures collaboration among students but also moves students toward cognitive resolution and growth in their ability to learn how to learn; and assessments that support the intended learning and community-development outcomes.

Osguthorpe and Graham (2003) concluded that the aim of using blended learning approaches is to find a harmonious balance between online access to knowledge and face-to-face human interaction. In other words, Heterick and Twigg, (2003) noted the aim of blended learning is to find the balance of instructional strategies that are tailored specifically to improve student learning. There is evidence that blended learning has the potential to be more effective and efficient when compared to a traditional classroom model.

The SRI International Center for Technology in Learning studied the adoption of blended learning models in selected schools in California and Louisiana. The teachers were using the rotation model referred to by Staker and Horn (2012). During the school day, students move between regular classroom instruction and online instruction based on a schedule or at a teacher's discretion. The online instruction may be organized as one of several stations in a classroom that students rotate among during a class period. In

another version, online instruction occurs separately from the core teacher-led instruction, often in a computer or learning lab. Both blended learning models-classroom and lab based were adopted to some degree by schools in the research.

Anderson, Conrad, and Corbett (1989) found that students learn to do something well if it is something that they practice doing. They also suggested that remedial feedback produces long range learning benefits; explanation helps student's correct mistakes; however, delayed feedback causes students to take longer to learn the material. In later studies by Ritter, Anderson, Koedinger, and Corbett (2007), technology such as the Cognitive Tutor was used to provide timely feedback. Lovett, Meyer, and Thille (2008) conducted a study with college students who participated in accelerated learning. They were asked to use online learning in the place of traditional classroom instruction. This study was a part of an Open Learning Initiative, an open educational resources project located at Carnegie Mellon University. There were several studies conducted through this initiative, mainly to compare the experiences of students enrolled in a statistics course as a stand-alone online course and students who were enrolled in the statistics course in a traditional classroom. Results of final exams showed no significant difference in student success (Lovett, Meyer, & Thille, 2008). The authors modified the study to explore a blended approach, combining online with face-to-face and compared to a traditional classroom approach (Lovett, Meyer, & Thille, 2008). The results showed that students in the blended environment learned an entire semester of curriculum in half as much time than students who participated for a full semester using traditional instruction. Results also revealed that the students using the blended approach performed just as well or better than their peers did in the traditional classroom (Lovett, Meyer, &

Thille, 2008). Online opportunities to practice new learning were more prevalent than is likely in a traditional classroom setting. Students were required to practice and reflect in different situations throughout the learning experience. In the end, students learned fifteen weeks of course material in eight weeks.

The goal for teaching using the blended learning model, in a blended environment is to personalize instruction to meet the diverse needs of each student. An educator must know what it means to personalize learning for all students and how to design instructional materials to meet this goal.

Personalized Learning

Wolf (2010) shared that the intent of personalized learning is to meet children where they are with learning and development and help them meet their potential to educate the whole child. Varied learning environments are encouraged, as personalized learning takes place both within and outside of the classroom. Using the definition provided in the National Education Technology Plan (U.S. Department of Education, 2010), personalized learning not only encompasses the individualization and differentiation, but also allows students to draw on their personal interests to direct learning objectives and content that meet their needs. These factors can result in increased student engagement and motivation, time on task, and ultimately better learning outcomes (Repetto, Cavanaugh, Wayer, & Liu, 2010; U.S. Department of Education, 2012). Horn and Staker (2015) describe personalized learning as an approach that also implies that students can receive a one-on-one learning experience when they need it but can also partake in group activities and projects when that would be best for their learning. Blended learning addresses the challenges of meeting students' needs since it is

rooted in personalized instruction tailored to the specific needs of students. This type of learning environment has been identified as an effective strategy in working with many groups of students including those at-risk, with disabilities, and the gifted (Watson & Gemin, 2008).

One of the first studies to draw attention to personalized learning was published in 1984 by Benjamin Bloom. This study measured the effects of students learning with a tutor to deliver just-in-time help. The results found that after three weeks, the average student under tutoring was about two standard deviations above the average control class. That means that the average tutored student scored higher that ninety-eight percent of the students in the control class. This is a significant impact on these learners. As leaders feel in urgency to prevent struggling students from falling through the cracks, while helping others move ahead, the desire for more personalization becomes more enticing. Educators are desperate for a better way to tailor learning to reach individual's needs.

Patrick, Kennedy, and Powell (2013) claimed that most K-12 education programs leave less room for individualization. The need for individualized programs or personalized learning is critical. Personalized learning allows learners to "have agency to set their own goals for learning, create a reflective process during their journey to attain those goals, and be flexible enough to take their learning outside the confines of the traditional classroom" (p. 4). Demski (2012) reported technology to be central to personalized learning. Aviles and Eastman (2012) claimed that technology can meet the needs of millennials, such as immediate feedback, affiliation, personalized learning, and low ambiguity. The outcomes of personalized learning can be enhanced via technology.

Patrick, Kennedy, and Powell (2013) affirmed personalized learning encourages

students to:

> Develop clear goals and expectations for achievement and support them to make good decisions in a challenging and rigorous learning environment. It's a space where teachers are allowed the time they need to work with students; design instruction that is rigorous, flexible, and adaptable; and focus on critical thinking and metacognitive practices to develop stronger, deeper, independent learning. (p. 6)

Furthermore, the concept of personalized learning is very conducive to blended learning. In fact, Patrick, Kennedy, and Powell (2013) claimed that "blended learning is about the transformation of the instructional design toward personalized learning with teachers and students harnessing advanced technological tools to accomplish the shift toward personalization by design" (p. 9, original in italics).

The online component of blended learning allows students to be more independent in structuring their learning. Most educators see this as a positive, more learner-centered approach that is sensitive to the real needs of learners (Clark, 2006). With blended learning designed to create communities of inquiry, teachers focus less on delivering instruction and more about active learning through collaboration and social construction of understanding (Rovai & Jordan, 2004). Instructors can behave as a coach, facilitator, and a cheerleader as students are guided to become leaders of their own success (Gilbert & Flores-Zambada, 2011).

The research indicates that students taught in a personalized learning environment achieve superior academic results and develop socially through personal growth. These students tend to be increasingly self-directed and self-initiated with excellent problem solving skills (Martinez, 1999; Allen & Seaman, 2006). Personalized learning tailors learning to students' needs, interests, and aptitudes. This student-centric approach is widely accepted by educational institutions as a fundamental means to enable students to

reach their highest potential and close attainment gaps (Clements & Douglas 2008). The research indicates that students taught in a personalized learning environment achieve superior academic results and develop socially through personal growth. These students tend to be increasingly self-directed and self-initiated with excellent problem solving skills (Martinez, 1999; Allen & Seaman, 2006). As the paradigm shifts towards personalized learning using the blended learning model, student engagement will continue to be enhanced and the sharing of innovation that comes from the appropriate and creative use of technology within education will foster more successful learning outcomes.

Meeting the Needs of Diverse Learners

Personalized learning can be supported with culturally responsive teaching (CRT). CRT has been described as great teaching and the ability to relate to diverse students so they are academically successful. Gay (2010) and Ladson-Billings (1995) define culturally responsive teaching as a collection of best teaching practices to enhance the academic success of students who are culturally different in the classroom setting as well as to have high academic expectations for them. Culturally responsive teaching focuses on activating student's prior knowledge and experiences as they relate to their cultural lives and connecting it with learning (Gay, 2010). This form of teaching allows students to better understand and relate to information that is new or unfamiliar to them by connecting it to their own experiences.

Culturally responsive teaching is designed to prepare teachers to "build up and fill in the holes that emerge when students begin to use critical analysis as they attempt to make sense of curriculum" (Ladson-Billings, 2006, p. 32). Ladson-Billings (2006)

suggested research has shown that teachers who can apply culturally responsive pedagogies can make a significant difference in the academic achievement of their students. She further noted:

> Culturally relevant pedagogy rests on three criteria or propositions: (a) students must experience academic success; (b) students must develop and/or maintain cultural competence; and (c) students must develop a critical consciousness through which they challenge the status quo of the current social order. (p. 160)

Culturally relevant pedagogy increases student performance because it empowers students intellectually, socially, emotionally, and politically by utilizing culture as an influence to convey knowledge, skills, and attitudes (Ladson-Billings, 1995). The focus is on meeting the needs of students; the term culturally responsive suggests that teachers can address the myriads of academic needs of all students from diverse backgrounds.

The theory of culturally responsive teaching and learning states that educators: develop a cultural diversity knowledge base for students; design culturally relevant curricula; demonstrate cultural caring; establish cross-cultural communications; and establish cross-congruity in classroom instruction (Gay, 2000). Villegas and Lucas (2002) further advanced the conversation on cultural responsiveness by applying the term to teachers who: have a sociopolitical consciousness, affirm views of students from diverse backgrounds, are responsible for and capable of bringing about educational change, embrace constructivist teaching and learning, and build on students' prior knowledge and beliefs while challenging and expanding familiar knowledge sets. Culturally responsive instruction uses, "cultural knowledge, prior experiences, frames of references, and performance styles of the ethnically diverse students to make learning encounters more relevant to and effective for them" (Gay, 2010, p.31), while at the same time ensuring that students are exposed to different ways of thinking based on the multiple perspectives

included in instruction. Scholars such as Gay (2002; 2010), Banks (2001), and Ladson-Billings (1992b, 1995, 1999) align themselves with teaching practices incorporating the background experiences of students and emphasize making instruction relevant to students' frames of reference to accelerate student achievement and deepen understanding. Teachers can help students achieve success by conveying knowledge through students' learning styles, which should consider procedural, communicative, substantive, environments, organizational, and perceptual, relational, and motivational dimensions of learning. Personalizing students learning by focusing on students' frames of reference increases student achievement.

Two case studies from the kindergarten-twelfth grade educational environment highlight personalized learning initiatives that support a standard outcome: improving student learning by moving at the student's pace, and increasing parent and teacher engagement with the student's needs. The first case is a program that was implemented by the New York Department of education called the "School of One." This program began as a summer and after school program but has been expanded into a full school year. In this program, students take daily assessments to identify present levels of ability and then lessons are presented to them that are tailored to their individual needs and skills. Students work through these tailored lessons at their own pace, learning content based on their unique learning needs. The School of One holds to the essential elements of personalized learning as it: adopts a student-centered learning paradigm, dramatically shifts the teacher's role to being part of a collaborative team, capitalizes on technology to match students with resources and utilizes computer-based assessments to tailor lessons fro each individual student. The program incorporates a blended learning model using

both traditional face-to-face educational instruction partnered with technology.

The Hanover Research Group (2012) completed a case study involving 8th grade classrooms at Millis Public Schools where iPads facilitated the learning process. The iPads supported students by allowing them to communicate, collaborate, analyze, and create all while being tailored to their learning needs. This program holds to the elements of effective personalized learning through increasing student engagement and productivity, increasing 21st century skills, and promoting self-directed learning.

With the improvement in educational technologies, personalized learning will continue to be a key component in education. Learner analytics and web-based learning software will continue to be developed to determine effective learning strategies for each individual student, and these technologies will also be used more specifically to detect patterns in student behavior that can help educators identify learning issues early enough to craft and implement solutions (Johnson et al. 2013).

Displaying a document or PowerPoint on a screen for students to follow along with during a lecture is not meeting the diverse needs of students. Implementing the blended learning model of instruction or creating a blended learning environment in education will require educators and students to have 21st century skills, incorporating 21st century technology. These skills will allow students to critique and analyze information, connect with individuals around the world, and create projects that are relevant for diverse cultures. Learning can happen anywhere and at any time with 21st century skills and technology.

21st Century Skills and Technology

Educators are interested in integrating 21st century skills in classrooms throughout the world (Lambert, Gong, & Cuper, 2008). This integration requires a paradigm shift in teaching so that technology is used to develop learning skills among students and teachers. Twenty-first century skills have been defined in many ways. Berry (2011) defined 21st century skills in an academic and cultural context. He maintained that 21st century skills enable students to learn subject matter by creating, analyzing, and evaluating the relevant information from a wide range of sources along with developing a better understanding of diverse cultures. Zhao (2007) mentioned

> 21st century skills within the context of globalization, since citizens must be able to competently negotiate cultural differences, manage multiple identities, comfortably interact with people from different cultures, and confidently move across cultures as well as the virtual and physical worlds. (p. 16)

Key components of 21st-century content are global awareness and scientific literacy; learning and thinking skills (higher order thinking, planning and managing, collaboration); technology literacy (using technology in the context of learning, E-communication); and leadership skills (creativity, ethics, creating products) (McCoog, 2008). Today's students will be required to think critically and create high-quality products to compete in the global marketplace as well as become informed citizens for participating in a democracy.

The concept of democracy is translated into learning at schools via the knowledge, skills, values, and attitudes that are promoted and practiced in schools and classrooms. Democratic knowledge is something that is not imposed in school, but something that students find useful to solve important problems (Knight & Pearl, 2000). Democratic skills include intellectual skills required for democratic citizenship. Critical

thinking and analysis enable citizens to consider alternative solutions and opportunities for change while having meaningful participation in public decisions (Perrin, 2005). Freedom, equality, equity, justice, respect, tolerance, solidarity, and responsibility, among others are described as the basic values of democracy (Perrin, 2005). Democratic attitudes guide the democratic participation and behavior in all areas of life. School should be places where knowledge, skills, values, and attitudes are defined and taught to create 21st century democratic citizen.

To acquire 21st century skills, students must be encouraged to create new ideas, to evaluate and analyze the material presented, and to apply that knowledge to their academic experiences (McCoog, 2008). If teachers consider their students' skills and facilitate learning, students can reach their greatest potential. This however, requires a shift in thinking. Instead of delivering content, teachers should engage students in the content, which may also mean delivering instruction at a faster pace. This idea is an example of how technology acts as a foundation and not what drives 21st century teaching and learning. Technology may hinder instruction until this paradigm shift occurs. There are many ways in which teachers can design instruction to promote learning with others. Students can discuss concepts in pairs or groups and share what they understand with the rest of the class (Schwartz & Fischer, 2006). During one group activity, students develop arguments and then debate with each other. In other group activities, students split the subject materials and share their insights with other students. There are many ways in which teachers can design instruction so that students learn from and with others, developing both their ability to work in teams and other 21st century skills (Perkins, 2010).

Lambert and Gong (2010) conducted research with pre-service teachers to observe the impact of integrating technology in the classroom and found that pre-service teachers learned teaching of advanced curriculum when technological was introduced in the classroom. Additionally, Cooper (2001) found that learning methods that involved the integration of technology were useful for students in their learning process.

Penuel, Golan, Means, and Korbak (2000) reported on research at the Stanford Research Institute International that the students who used technology in Challenge 2000 Multimedia Project classrooms performed exceptionally better than those who were not using technology in the project in the development of skills such as communication, teamwork, and problem solving. In an additional study, Penuel, Means, and Simkins (2000) studied the impact on low achieving students when they experienced online learning. The researchers found that students demonstrated greater engagement in work, responsible behavior, effective collaboration, and improved scores. Penuel and colleagues concluded that the emerging integration of technology in the classroom is transforming the learning skills of students and teachers. The research findings of the above-mentioned studies reflect the role of technology in the development of 21st century skills such as learning, collaboration, and communication. In these two studies, the research clearly indicated that the use of technology in class activities resulted in an improvement of achievement. Within a democracy, collaboration and communication support meaningful participation. It provides an opportunity for citizens to work together in analyzing situations with a critical lens. Learning experiences, that result in sharing and collaboration provide students with the opportunity to make sense of academic ideas and enhance a democratic society.

Blended and online learning programs rely on innovative technology that supports teaching and learning; therefore, continual assessment of the software, hardware, learning management systems, and course content is critical to sustaining an effective blended or online program. Selecting technology resources should be based on the role the play to support teaching and learning and not on the technology hardware or software itself (Creighton, 2003; Niemiec & Otte, 2010; Watson, Murin, Vashaw, Gemin, & Rapp, 2010). iNACOL and the Partners for 21st Century Skills (2006) elaborated on the role of technology, they stated:

> The rate at which new information becomes available today is astounding when compared to previous decades. In order to succeed in the 21st century, students must master the ability to use appropriate technologies to process, analyze, and present information efficiently and effectively in school, life, and work settings. (p. 6)

The use of 21st century digital tools along within project-based learning is a useful teaching methodology for enhancing critical thinking skills among students (Trilling & Fadel, 2009). Wenglinsky (2004) found that the use of technology along with enhanced critical thinking skills produced higher academic achievement among students.

The findings of the above studies reflect the role of technology in the development of 21st century skills including content, learning and thinking skills, technology literacy, and leadership skills all while supporting a blended learning environment. These studies indicate that the use of technology in class activities resulted in an improvement of achievement. Learning experiences that result in sharing and collaboration provide students with the opportunity to make sense of academic ideas and engage in a world that will require as Ladson-Billings (2006) noted, ". . . students must develop a critical consciousness through which they challenge the status quo of the

current social order" (p. 160).

Teaching using the blended learning model, in a blended environment requires a teacher that is comfortable with the instructional strategy and teaching diverse learners. The teacher must incorporate 21st century skills to personalize the learning. Professional development for teachers is a way to support them in their learning to incorporate these components.

Professional Development for Teachers

Professional development, also referred to as professional learning, staff development, teacher training, or in-service, is defined by the American Federation of Teachers (2008) as:

> A continuous process of individual and collective examination and improvement of practice. It should empower individual educators and communities of educators to make complex decisions; to identify and solve problems; and to connect theory, practice, and student outcomes. Professional development also should enable teachers to offer student the learning opportunities that will prepare them to meet world-class standards in given content areas and to successfully assume adult responsibilities for citizenship and work. (p. 3)

Lindstrom and Speck (2004) define professional development as:

> A lifelong, collaborative learning process that nourishes the growth of individuals, teams, and the school through a daily, job-embedded, learner centered, focused approach. It emerges from and meets the learning needs of participants as well as clearly focuses on improving student learning. (p. 10)

In both definitions, the focus is on continued growth of the individual to support learning opportunities for students. The topic or outcome for the professional development will vary on the initiatives being implemented and on the individual needs of the educators. Professional development is more than weekly meetings covering a "to do list," it is a time for growth and learning. Professional development as it relates to personalized learning, means the topics and sessions need to be personalized for the educators

attending. Modeling personalized learning using the blended learning model for educators will transfer, connect, and support what is happening in the classroom (Christensen 2013; Clement 2007; Horn 2011, 2012; iNACOL, 2011; Staker, 2012).

In December of 2015, President Obama signed into law Every Student Succeeds Act (ESSA), the reauthorization of the Elementary and Secondary Education Act. In the new authorization, there was an improved definition of professional learning (see Appendix C: Elementary and Secondary Educational Act; Definition of Professional Learning). This definition can be divided into three categories; context, process, and content standards of professional development. The context standards address learning communities, leadership, and resources that support professional development, all which are aligned with the school and districts goals. The process standards call for professional development to be data-driven, evaluated, research-based, appropriate, and collaborative. This data determine priorities, and help sustain continuous improvement. Content standards focus on equity and quality teaching. These content standards support new content knowledge and instructional strategies that can be implemented in the classroom to meet the needs of all learners.

Defining professional development and its components can be relatively simple, implementing the concepts and knowing what the needs of your teachers and students are, is quite the contrary. As teachers seek instructional strategies to aid in both professional and student growth, the professional development opportunities must be targeted to their needs. Only when this is personalized and targeted will we see optimum results. Danielson (2006) described the ineffectiveness of past professional development practices, including one-time workshops and university courses, concluding that these

approaches do little to influence classroom practice. Sparks and Hirsh (1997) found that much of the staff development was ineffective because the professional development was created and delivered by someone from outside of the organization to a group of teachers who listened in a passive manner. Lieberman (1995) noted parallels between how students learn and how teachers learn; he advanced that teachers must be engaged in learning that involves working with others in a practical way and that engages them in problem solving. As educators continue to see growth and implementation of personalized learning and blended learning in the kindergarten through twelfth grade classrooms, professional development opportunities will need to be available for our teachers in this area. Educators will need to have an accurate understanding of the needs of teachers in this type of environment to provide timely informative professional development. These professional learning opportunities will also need to be modeled in the same format for teachers to be fully engaged.

Exploring Teachers Experiences using Blended Learning

Comas-Quinn (2011) explored teachers' experiences using blended learning. The mixed methods study involved both participant observations and a survey followed by three semi-structured interviews. Comas-Quinn identified three reoccurring themes– technical issues, the lack of online tools to integrate course activities or assessments, and shortage of time as the main factors in some of the teachers' abilities to effectively integrate technologies into the curriculum. The researcher suggested an increased understanding of the issues facing teachers to develop more effective training programs (Comas-Quinn, 2011).

Expanding teachers' pedagogy to advance teaching and learning that embraces

technology requires educators to transform their approach from teacher centered to student centered. Based on social constructivism, teachers must work together to explore and create the three frames of knowledge–content knowledge, pedagogy knowledge, and technology knowledge (Koehler, Mishra, & Cain, 2013). Integrating technology into teaching is challenging because it requires educators to grow continually in the three frames of knowledge (Koehler, Mishra, & Cain, 2013).

When implementing blended learning in traditional school districts, those charged with providing instruction online have not necessarily participated in college coursework that previously prepared them for teaching in an online or blended learning environment. Professional learning opportunities for current teaching staff members are left to school leaders who similarly have little or no formal online and blended learning background. The barriers are not exclusive to those with limited online learning background. Teachers who experienced these courses might consider what they have experienced as effective online instruction; however, because not all blended learning courses are created equal, these teachers will need exposure to learning communities that focus on collaborative learning and the impact of engagement in effective online learning courses. In addition to learning how to teach in an online learning environment, teachers need time to develop online content (Quilici, 2012).

Teachers' satisfaction with training associated with the adoption of the blended learning model varied by site. Teachers at all schools reported participating in a training or orientation directly related to the school's use of blended learning or on the software programs supporting it. Approximately two-thirds of teachers at Alliance and Rocketship and one-third of those at FirstLine's Arthur Ashe Charter School, however, indicated they

were dissatisfied with the training. The reasons they cited included the format (via phone or the internet), which lessoned the effectiveness of the training, and training materials that were too theoretical and not specific to content areas. Teachers who reported being satisfied with the training noted that the training was in person, led by other teachers rather than administrators or vendor representatives, had hands-on activities, and when the training was on specific software, that a company representative was accessible and available to answer questions during the school year. Several teachers interviewed said they would have benefited from additional training during the school year, indicating that the initial training provided a good introduction but that training would have been more beneficial once they had some familiarity and experience with their blended models.

The need for teacher training varied by the type of blended learning model adopted. The roles teachers play in implementation of the online instruction component of the blended learning model varied greatly across the models, with each having different expectations for teachers' interactions with the software and use of system data on student progress. Teachers reported it was very important to receive training on how to access and interpret student progress reports provided by the online instruction programs as well as how to use the data to inform their instruction.

At Alliance College-Ready Public Schools, they began implementing the Blended Learning for Alliance School Transformation (BLAST) instructional model at three high schools. The primary focus of the BLAST model is to support student-centered learning through small-group, data-informed instruction. Training and support were key issues in the research findings. Teachers were not satisfied with the training they received to support their implementation of the BLAST model. Almost all of BLAST teachers

(ninety-one percent) participated in a training or orientation session directly related to their school's use of the BLAST or on the specific software programs supporting it. Of those who participated, sixty percent reported being dissatisfied with the quality of the training and more than eighty percent of teachers reported that insufficient training and lack of planning time had a "moderate" or "significant" impact on their ability to effectively implement the BLAST model. The primary reasons cited by those teachers who were dissatisfied with the training provided was that the training was too general and did not provide enough concrete examples they could use in their classrooms. The most beneficial training sessions reported by teachers were the ones led by fellow teachers in their own subject area, allowing these teachers to share ideas and strategies that were directly applicable to the content they were teaching. More than ninety percent of BLAST teachers reported spending some of their own time (at least an hour or more) getting acquainted with the online programs or planning for how to best integrate the BLAST model in their classrooms. Forty percent of teachers reported spending twenty hours or more. Teachers of science, social studies, and foreign language reported spending the most personal time preparing to implement the BLAST model.

At FirstLine Schools Arthur Ashe Charter School began implementing blended learning using the lab rotation model in grades K-8. The schools' use of this model supported the notion for one-on-one and small group instruction. Teacher satisfaction with the training provided on the schools blended learning initiative and online programs varied. Almost all teachers (ninety-five percent) participated in a training or orientation session. Close to two-thirds (sixty-two percent) were satisfied or very satisfied with the training they received, while more than a third (thirty-nine percent) were dissatisfied or

very dissatisfied. The data collected revealed that teachers needed more information about the software programs and specifically on how to use student data. Teachers were provided with regular opportunities throughout the school year to received updates and provide administrators with feedback on the blended instructional model. Teachers were given the opportunity to meet every Friday for two and a half hours but towards the middle to end of the year meetings decreased to only a monthly basis. Teachers no longer had information to share with administrators but continue to need additional professional learning. The Friday meetings could have been used for professional learning but it may have been due to a lack of knowledge this was not done.

Bijeikienė, Rašinskienė, and Zutkienė (2011) conducted a study at the Centre of Foreign Languages at Vytautas Magnus University to analyze the experiences of teachers in computer-assisted language courses as well as to explore teachers' attitudes toward blended learning. The study provided valuable information regarding the experiences of teachers in a blended environment. The blended learning environment involved face-to-instruction in a computerized language learning laboratory and included information and communication technology (ICT) for interactive study activities. The online portion of the course was built using Moodle, an online course management system, included video lectures, audio records, chat rooms, and discussion forums. More than twenty percent of instruction was provided using Moodle (Bijeikiene, Rašinskienė, & Zutkienė, 2011).

The research involved twenty-four respondents and was conducted in three stages. The first stage involved collecting experience levels regarding technology use in the study. The second stage was a questionnaire focusing on the teachers' attitudes toward blended learning. The third stage used an informal interview to collect a deeper

understanding of the teachers' experiences during the teaching of the blended course. The results revealed a high level of experience among the respondents regarding the use of technology (Bijeikienė, Rašinskienė, and Zutkienė, 2011). Conversely, the teachers claimed that increasing the technological proficiency also would increase the effectiveness of blended learning programs. Overall, the teachers spoke favorably about blended learning and the increased use of technology in the courses. The interviews produced favorable comments regarding "convenience of access," "the learner-centered approach," and the "communicative approach to language learning" (p. 125). The teachers felt the reduced face-to-face class time was the most significant drawback to blended learning. Furthermore, the teachers felt that students were less motivated to participate in online discussions and chats. Suggestions for improvement included the elimination of technical problems or shortcomings regarding the integration of technology into the course, as well as increasing the technical proficiency of the participants.

Werth, Werth, and Kellerer (2013) reported on a study that focused on the impact of blended learning on high school teachers and students. One of the goals of this study was to provide insights for developing blended learning programs. Teachers who had implemented blended learning were asked to provide suggestions for future implementations of blended learning. The primary response involved preparing for the large amounts of time required for facilitation. Respondents also claimed that blended learning presents many initial difficulties; however, enduring through the struggles was "well worth the effort" (p. 19). Regarding lesson preparation respondents suggested the development of some lessons in advance but teachers should plan to develop lessons as

the year progresses. Respondents also suggested that taking blended learning courses would help with implementation ideas as well as collaborating with other blended learning teachers.

Blending learning as an instructional strategy, the blended environment, personalized learning, incorporating 21st century skills and professional development for teachers all support the outcome of meeting the diverse needs of students. However, many teachers may not be prepared for teaching in diverse settings (Delpit, 1995; Gay, 2010; McKenzie & Scheurich, 2004).

Professional Development for Teaching Diverse Learners

Diverse learners refer to students that are from culturally, racially, and economically different backgrounds compared to White, mainstream United States (Gay, 2010). Diverse students do not perform as well in schools as White students, for many reported reasons. One of the reasons is due to the differences that exist between teacher and students relative to educational factors that are influenced by race, culture, and class (Anderson & Cowart, 2012). It is difficult for many classroom teachers to successfully educate diverse students when they do not understand the culture (Smith & Smith, 2009).

Public school educators typically operate from a deficit thinking perspective when examining the achievement issues associated with students of color. Deficit thinking theory refers to the labeling of poor minority students and their families as disadvantaged, at risk, and uninvolved (Johnson, 1994). Deficit thinking theory blames school failure for these students on the students' lack of readiness to learn in the classroom, the parents' lack of interest in their education, and the families' overall lifestyle. Those teachers who practice this paradigm use the students' backgrounds as an excuse for failure (Delpit,

1995; Valencia, 1991). Teachers who operate within the deficit thinking paradigm contend that unless students of color change background factors such as their culture, values, and family structures, they encounter minimal or no opportunities to have successful outcomes in school (Weiner, 2006).

When teachers utilize deficit thinking, students run the risk of failure (McKenzie & Scheurich, 2004). Students of color face significant educationally ethnic disparities throughout their educational careers. These disparities include teacher biases, perceptions, and attitudes as they relate to different ethnic and cultural groups. These disparities contribute to a diverse student's academic success. Regardless of these misconceptions that teachers may have, when teachers take responsibility for student learning despite the students' race, culture, or class, all students are more likely to be successful (Halvorsen, Lee, & Andrade, 2009). Therefore, it is imperative that teachers know and learn about the diverse students they teach.

One approach for enhancing teacher quality for teaching diverse learners is through professional development. Dixon et al. (2014) expressed that teacher education programs provided only introductions to theories in survey courses. Darling-Hammond and McLaughlin (2011) stated that a teachers' ability to envision how to learn from the perspective of a diverse student population required an understanding of complex concepts that generally were not conveyed in traditional training strategies. Additional studies have reported that students of all races feel more valued when their teachers know and hold high regard for their history, language, and cultural celebrations (Anderson & Cowart, 2012). It is difficult to do this when you are not familiar with what these histories, languages, and cultural celebrations are. It has also been reported that when

students feel that their teachers respect their culture, they want to do well in school and ultimately do perform at high levels (Anderson & Cowart, 2012). This supports the notion that teachers should know and show respect for diverse students and professional development is appropriate to this gap in teacher understanding.

One must be aware of their cultural responsiveness to implement culturally responsive teaching strategies when working with diverse students. Research implies that it is imperative that pre-service teachers receive training and that practicing teachers receive on-going professional development in teaching students of contrasting cultures and socioeconomic status. Bennett (2008) supports this when he states, "Rather than avoiding a major social issue confronting teachers in public schools today, studying poverty and its implications for the school and community can change thinking and prompt teachers to action" (p. 254). Society must educate and inform teachers about the success that implementing culturally responsive teaching strategies can have on diverse students if there is going to be a change.

Ladson-Billings (2001) shared three criteria that define the theoretical framework of culturally relevant pedagogy. The criteria include: teachers who demonstrate an ability to develop students academically, teachers who exhibit willingness to nurture and support cultural competence, and teachers who foster the development of a sociopolitical or critical consciousness. A study conducted by Howard (2002) examined African American elementary and secondary students' description of teaching practices and learning environments within urban contexts. The study identified three central teaching strategies: teachers who establish family, community, and home-like characteristics; teachers who establish culturally connected caring relationships with students; and the

use of verbal communication and affirmation. All three had a positive effect on student effort, engagements in class content, and overall achievement. When the teacher focuses on the individual student, positive outcomes ensue.

When teachers express support for inclusive classrooms, they are likely to plan for whole-class instruction (Morocco, Riley, Gordon, & Howard, 1996). Tomlinson, Moon, and Callahan (1998) investigated the nature of instructional practice among middle school populations to consider the degree to which teachers use differentiation to respond appropriately to academic diversity. The study revealed that very few teachers take student interests, learning profiles, or cultural differences into account when they plan lessons. The authors found that modifications to the task set were unusual and limited with few teachers opting for differentiation of any form. Some of the teachers in their study who used varied instructional strategies facilitated more flexible classrooms, which allowed them to accommodate students more appropriately. Most teachers expressed frustration about attempting to deal with learner variance with many choosing the one-size-fits-all approach to teaching (Tomlinson et al., 1998). The results yielded from the study suggest that increased professional development might help to address the need for teachers to become better skilled in the use of differentiation strategies to meet the needs of all learners.

A key to meeting the needs of diverse learners lies in the planning, organizing, and thinking that guide the lessons before they ever reach the students. Ample thought should be given to how a personalized lesson will be planned, executed, and assessed prior to instructional delivery. This planning has the potential to address the needs of every student as well as addressing the exclusion of some students because of ability

level, making it more likely that learning will happen for students. Unfortunately, many teachers do not integrate personalized instructional strategies into their classroom because they "they lack professional development resources" (Carolan & Guinn, 2007, p. 1).

Causton-Theoharis and Theoharis (2008) documented how student learning improved after policies, procedures, curriculum, and instruction shifted to support all learners. The noted challenge for teacher professional development is to provide the opportunity to deepen their understanding of the learning process and continuously develop instructional approaches that support all learners and all learning (Walker et. al. 2010). Student success is largely dependent upon the teacher's ability to instruct every student. Having a thorough understanding of a student's diverse needs increases the opportunity for success and providing ongoing professional development in this area would be helpful for both new and veteran teachers (Walker 2011).

Framework for Blended Learning Competencies

Powell, Rabbitt, and Kennedy (2014) created a framework that offers a clear but flexible point around which to observe emerging practice and organize teacher development and training resources. This framework is focused on teacher competencies for teaching in a blended learning environment. The framework identifies twelve specific competencies, which are organized into four larger domains – mindsets, qualities, adaptive skills, and technical skills.

Mindset competencies include core values or beliefs that guide an individual's thinking, behaviors, and actions, and that align with goals of educational change and mission. Mindsets address deficit thinking and removes the blame for school failure for these students on the students' lack of readiness to learn in the classroom, the parents'

lack of interest in their education, and the families' overall lifestyle. In blended learning practitioners need to understand, adopt, and commit to mindsets that help them shift towards new forms of teaching and learning (Christensen 2013; Clement 2007; Horn 2011, 2012; iNACOL, 2011; Staker, 2012). Quality competencies are those personal characteristics and patterns of behavior that help academic staff make the transition to new ways of teaching and learning. These qualities, like grit, flexibility, and transparency, need to be coached, reinforced, and developed over time. Adaptive skills are generalized skills that apply across roles and subject areas. These skills, which include things like collaboration and problem solving, are complex. Yet, they help practitioners tackle new tasks or develop solutions in situations that require organizational learning and innovation. The adaptive skills are mastered through modeling, coaching, and reflective practice. Technical skills are domain-specific "know-how" and expertise that educators used to execute against the known tasks in their jobs. They are acquired and mastered through instruction, training, and practice. The expectation is that teachers and their developers will be able to use these competencies within a competency-based learning approach (Sturgis & Patrick, 2011) in which users will be able to demonstrate and advance against definitions of mastery and get rapid, meaningful assessment along with differentiated support.

Powell, Rabbitt, and Kennedy (2014) also state that effective blended learning teachers have high expectations and commitment to achieving equitable outcomes. Teachers create rigorous but supportive environments in which students are held to high expectations academically and behaviorally. Teachers have a desire to move towards competency-based learning. By this, teachers recognize that not all students learn at the

same pace and that mastery of knowledge and skills is a better measure of learning than time on task. Teachers also value all learners including those with different skills, exceptionalities, and needs. In seeking to personalize their instruction, teachers recognize that all students bring different strengths and needs to the table, including those with identified disabilities. Professional learning for teachers must be designed with these competencies at the forefront. If teachers are to be successful in teaching in a blended learning environment, they must be supported with the tools, knowledge, and skills that they personally need to enhance.

Supporting Teachers' Implementation of Blended Learning Programs

The power of personalized learning is a common theme when addressing student achievement and should be incorporated into the expected learning of teachers as well (Bubb & Earley, 2009). Bubb and Earley (2009) wrote: "schools should move toward a more personalized approach to staff development and learning" (p. 37). By modeling a personalized approach with teachers, they can then implement this element in their classroom practice.

Most pre-service teaching programs do not offer courses of study focused on preparing teachers to provide instruction in blended and online learning environments (Watson, Murin, Vashaw, Gemin, & Rapp, 2011). In most states, certification requirements for teachers who provide online instruction are no different from states' certification requirements for teachers in traditional, brick-and-mortar- programs (Watson, Pape, Murin, Gemin, & Vashaw, 2014). While practitioners recognize the need for extensive professional learning focused on effective teaching skills, pedagogy, classroom management, communication, and student engagement in online learning

environments, there is no consistency regarding the amount of time such professional learning requires (Watson & Ryan, 2006).

So and Bonk (2010) claimed that blended learning is "complex," (p. 197) and training is needed to support the implementation of the practice. Blended learning courses require more time for preparation and facilitation than traditional courses (Johnson, 2002; King, 2002; Willett, 2002). Several studies identify the importance of course design and interactivity in successful online learning (Cox, Carr, & Hall, 2004; Hopper, 2003; Stein, 2004). Considering the important role of teachers in successful blended learning, it is necessary to develop strategies to support their needs and concerns as they transition to the blended learning environment; including helping them meet the needs of their most vulnerable learners.

Educators report that the design and teaching of blended courses is generally more time-consuming than it is for traditional courses (Benson, Anderson, & Ooms, 2011; Hill, 2006; Kenney & Newcombe, 2011; Korr, Greene, & Sokoloff, 2012; Napier, Dekhane, & Smith, 2011; Welker & Berardino, 2005-2006), which is perhaps not surprising given the multitude of variables specific to the blended learning environment. Graham (2006) highlights this complexity by identifying six considerations blended course developers should be aware of as they design courses:

- The role of live interaction
- The role of learner choice and self-regulation
- Models for support and training
- Finding balance between innovation and production
- Cultural adaptation
- Dealing with the digital divide. (p. 14)

With the increasing number of traditional schools developing and implementing blended learning programs, professional learning gains unprecedented focus, for teachers

currently employed in traditional schools had little or no online learning experience or even courses regarding technology integration during their pre-service programs (Archambault & Crippen, 2009). Practitioners are equally challenged by a limited research base regarding the benefits of professional learning of educators who provide online learning (Kennedy, 2013; Smith, Clark, & Blomeyer, 2005; Rice, 2006).

Practitioners seeking the credentials, characteristics, and pre-service preparation programs recommended for teachers who provide blended or online instruction find that little attention has been given to this area (Archambault & Crippen, 2009; Cavanaugh, Barbour, & Clark, 2009). As such, it is unlikely that undergraduate programs that require as few as one course on the integration of technology are adequately preparing teachers to provide online instruction, which shifts the burden of providing professional learning to the blended and online schools (Archambault & Crippen, 2009; Pape, 2007).

While the initial need to focus on professional learning that targets the technology interface used to provide online instruction has shifted to a recognized need to concentrate on support and pedagogy, "a substantial amount of professional development time is still spent on learning the technology" (Lowes, 2007, p. 164). A continued focus to properly prepare pre-service teachers, pedagogical issues in traditional environments, online pedagogy, classroom management in traditional and online settings, and various technology resources and learning management systems to facilitate online instruction and assessment should comprise college programs charged with preparing future teachers of blended and online instruction (Archambault & Crippen, 2009).

College programs implement professional learning in a variety of ways, but most incorporate an online component at least part of the time to focus on a variety of topics:

online pedagogy, policies, technology content delivery resources, and the learning management system. While some provide the professional learning from internal experts, most rely on experienced online learning providers to provide professional learning.

Teachers communicate a variety of professional learning needs associated with teaching in an online or blended learning environment. The most common need communicated regarding professional development is the need of in-school support from technology experts to answer questions or provide resources (Oliver, Herrington, & Reeves, 2006; Oliver, Kellogg, Townsend, & Brady, 2010). The timeline for professional development should be ongoing (Oliver, Kellogg, Townsend, & Brady, 2010). However, few programs extend professional learning support beyond the first year of implementing blended or online instruction. Specifically, while most teachers participate in professional learning during their first year of providing online and blended instruction, half as many say the same during their second year of teaching in a blended or online environment (Rice & Dawley, 2007). More specifically, teachers need well-timed, bite-sized professional development, comparative models of course design, orientation of course delivery tools, how to assess learners online, how to prepare online content without violating copyright restrictions, ensuring online safety of students, definitions and best practices of Web 2.0, and how to prepare documentation for a course to assist in deployment efforts (Oliver, 2010).

Teachers are a critical component in the implementation of blended learning. Gerbic (2011) reported that many blended learning studies focus on learning outcomes and student perspectives. Yet, the teachers' perspectives are underrepresented. The transition from traditional classroom instruction to blended learning is difficult and the

implementation strategy used to facilitate the transition must focus on the needs of the teacher. The Concerns Based Adoption Model (CBAM) addresses the "emerging and evolving needs" (Hall & Hord, 1987, p. 17) of teachers and considers the "personal side of change" (Hall & Hord, 2011, p. 265). The personal side of change is complex and thus, change cannot be measured entirely by quantitative procedures. The transition to blended learning is a significant process that has meaning and should be explored to understand its many dimensions. For the sake of improving educational outcomes and sustainability, an in-depth, teacher-focused study is needed to understand the meaning of this transition.

Change is to be expected and "constitutes an integral part of the educational landscape" (Evans, Thornton, & Usinger, 2012, p. 154). Concurring, Marzano, Waters, and McNulty (2005) noted:

> One of the constants within K-12 education is that someone is always trying to change it — someone is always proposing a new program or a new practice. Many of these programs and practices are well thought-out, well articulated, and even well researched. Yet, many, maybe even most, educational innovations are short-lived. (p. 65)

Folaron (2005) found that individuals make changes when necessary. Nevertheless, necessary changes are not guaranteed to last. Lack of motivation is only one reason that change is unsuccessful. The strategies used to support the implementation of new technology need to focus on the teachers' needs and concerns. Folaron stated:

> The importance of the human side of change cannot be underestimated. If the human element is neglected or left to chance, the improved process of implementation can be prolonged, the change effort can be more frustrating, the resulting benefits can be diminished, and the entire improvement can be short-lived. (p. 40)

Folaron insisted that change facilitators should identify potential resistance early and

ensure motivation is incorporated into every implementation strategy. Folaron suggested that an examination of the perspective of the individual who is experiencing change could provide insights to improve the process.

Summary

In Chapter 3, I described the purpose of the literature review and synthesized existing literature and empirical studies that addressed blended learning. The review of literature has informed me about the skills and knowledge that support students and teachers in a blended learning environment. Technology remains influential but only when it is partnered with traditional face-to-face instruction and learning. Most the studies found are quantitative and based on statistical data. The studies are also focused on the success of the students, not from the teacher perspective. Therefore, there is a need to for a qualitative study that addresses the knowledge and skills from the teachers' voice. This qualitative study provides rich data from teachers' perspectives that help address the study's research questions.

In Chapter 4, the rationale for qualitative research methods is detailed, including the study's design, setting, and sampling technique; and a description of participants, data collection, and analysis methods. Also included is a discussion of validity, reliability, limitations, and ethical considerations.

CHAPTER 4

METHODOLOGY

Many time technology is placed in classrooms and it is assumed that teachers can effectively use these tools to support learning. However, most educators lack the knowledge and skills to individually engage and personalize students learning in classrooms purported to be a blended learning environment (iNACOL, 2006, 2011; Horn and Staker, 2011, 2012; Lindstrom and Speck, 2004; Means, Toyama, Murphy, Bakia and Jones, 2009; Vanderkam, 2013). If classroom instruction is not engaging learners, then they are not learning (Pierce, 2009). The Internet brought a scalable method to design the learning environment that allows students to take more responsibility and ownership of their learning (Picciano & Dziuban, 2007).

To engage learners in the classroom, it is necessary to understand these new learners; the needs of the learners today are very different from those just a decade ago (Thornburg, 1992). The Next Generation learner is characterized as a digital learner who is connected, needs immediate feedback, and has the desire for an experiential learning setting. The students prefer team settings for learning in which the learning is accomplished by engagement through kinesthetic and visual modalities (Oblinger, 2005). Within the blended learning model, the best of face-to-face instruction is combined with the best of online components (Christensen 2013; Clement 2007; Horn 2011, 2012; iNACOL, 2011; Staker, 2012). The blended learning model supports learners in being connected, provides immediate feedback, and engages them in the same ways they are used to being engaged outside the educational setting (Garrison & Kanuka, 2004;

Garrison & Vaughn, 2008).

The purpose of this heuristic narratological case study is to describe the specific components that teachers need in both their knowledge and skills to individually engage and personalize students learning in a blended learning classroom environment. I examined and analyzed the stories of teachers teaching in a blended learning classroom to understand what this knowledge is that they express and what specific skills they determine as a must teach in this educational environment. This study provides information for teachers and administrators about the characteristics and components that highly effective teachers use to successfully teach in a blended classroom. With a deeper level of understanding, educators can begin providing professional learning opportunities to develop and enhance their individual growth. This deeper understanding begins with the research questions that guided the study.

While qualitative researchers start with an open-set of questions, these are often preliminary because they may change depending on the unique experiences of the participants. Qualitative research questions are evolving and non-directional (Creswell, 2013). The intent is to explore the complex set of factors surrounding the central phenomenon and present the varied perspectives or meanings that participants hold (Creswell 2013). Questions are designed to understand how people interpret their experiences, how they construct their worlds, and what meaning they attribute too their experience (Merriam, 2009). The central question and sub-questions include the following:

Central Question:

What do teachers describe as the knowledge and skills they need to teach in a blended learning classroom?

Sub Questions:

1) What themes are apparent in the stories that teachers tell about from their experiences in a blended learning classroom?
2) What differences do teachers describe in teaching between a traditional classroom and a blended learning classroom?
3) What are the personal barriers teachers faced when they began teaching in a blended learning classroom?

While these questions guided the design of the study, linked to the conceptual and theoretical framework, the questions helped to make meaning of the phenomena of blended learning.

In this chapter, I have included the design of the study, guided by the research questions. The chapter begins with the rationale for qualitative research, followed by the study's design, which includes the setting, sampling procedures and a description of the participants. Next, the data sources are described and the process for analyzing and interpreting the data is included. The final component of the chapter details the limitations, issues of validity and reliability, and the ethical considerations to the study.

Rationale for Qualitative Research

Qualitative methods, Patton (2015) affirmed, facilitate study of issues in depth and detail. Approaching fieldwork without being constrained by predetermined categories of analysis contributes to the depth, openness, and detail of qualitative inquiry (Patton).

This method typically produces a wealth of detailed information about a much smaller number of people and cases. Qualitative research is also conducted in a natural setting and a qualitative researcher collects data that focuses on the participants' perspectives and meanings (Creswell, 2013). This study lends itself to the qualitative nature because I examined in-depth the experience of eight participants. Denzin and Lincoln (2013) state, qualitative research "involves an interpretive, naturalistic approach to the world" and can "study things in their natural settings, attempting to make sense of or interpret phenomena in terms of the meanings people bring to them" (p. 6-7).

Miles and Huberman (2013) asserted the researcher can focus on "naturally occurring ordinary events in its natural setting" (p. 10). I collected the data for my study in the natural setting in which the teachers being studied work daily (Creswell, 2013). Teachers were observed in their own teaching environment so that I could experience first hand the blended learning environment. This varied by teacher depending on the grade level that they teach (kindergarten-twelfth grade) and the building in which they teach, all of which is in the River Valley School District. I was visible in the classrooms while conducting my observations; however, I did not interrupt the teaching and learning taking place, since there were no students present at the time of the observations. The focus of the observations was to be able to describe the setting of each classroom environment.

Taylor and Bogdan (1998) describe qualitative case study research as a form of research that concentrates on descriptive data, people's own written or spoken words and observable behaviors. As the researcher, I selected participants that I could observe and share their written or spoken words to help determine the areas in which the pre-service

teaching experience helped prepare them for the teaching experience. These spoken and unspoken words and behaviors are the data I pursued in this qualitative study which requires the researcher to utilize multiple sources of data throughout their study as opposed to relying solely on one data source (Creswell, 2013). In this study, I used interviews, observations and written narratives provided by the participants to describe and share their stories. When examining the data, I coded the data to establish meanings. This coding process allowed me to establish patterns or themes discovered throughout the study; in turn, supporting create thick description of the study findings (Grbich, 2007). Merriam (2001) defined thick description as, "the complete, literal description of the incident or entity investigated" (p. 30). Merriam also stated that, "rich thick description provides enough description so that the readers will be able to determine how closely their situations match the research situation, and hence, whether findings can be transferred" (p. 211). The data collection and analysis process is described in more detail in subsequent sections.

The design of this research study, using a qualitative approach, produced a wealth of information from the individuals participating in the study. The theoretical traditions provided a holistic view of the design for communicating the meaning participants have of blended learning. Patton (2015) described theoretical traditions or perspectives guided by core questions used to distinguish between arbitrary "paradigmatic, strategic, and theoretical dimensions" (p. 97).

Theoretical Traditions

The study is designed to interpret the meanings of participants' experiences teaching in a blended learning environment. This research study is framed in the three theoretical traditions of case study, narrative inquiry, and heuristic inquiry, communicated as a heuristic narratological case study. In this section, I provide an overview of each of these traditions beginning with the major approach of case study followed by narrative and heuristic inquiry.

Case Study. This is a multiple case study comprised of eight teachers. A case study is, "an empirical inquiry that investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used" (Yin, 1984, p.23). A case study may contain a single or multiple case studies (Yin, 2009). Creswell (2013) names case study as one of five qualitative traditions of inquiry:

> A qualitative approach in which the investigator explores a bounded system (a *case*) or multiple bounded systems (cases) over time, through detailed, in-depth data collection involving *multiple sources of information* (e.g. observations, interviews, audiovisual material, and documents and reports), and reports a case *description* and case-based themes. (p. 73)

I gathered data from eight different teachers, which characterizes the inquiry as a multiple case study with each participant characterized as single case.

Each participant case consisted of a written reflection, semi-structured interview, and classroom observations. These data was analyzed individually followed by cross-case analysis to explore patterns among the eight cases. Each case entails the aforementioned collection of written reflections, interviews, and observations for storying the experiences of eight participants into a narrative of their experiences.

Narrative Inquiry. I chose the concept of a heuristic narratological case study because I studied a specific group of teachers to learn about their experiences. The core inquiry question for a narrative is: "How can this narrative (story) be interpreted to understand and illuminate the life and culture that created it? What does this narrative or story reveal about the person and world from which it came" (Patton, 2015, p.98)? Creswell (2013) stated qualitative designs helped to empower and elevate the accounts, experiences, stories, and realities of others. Narrative research originated from "literature, history, anthropology, sociology, sociolinguistic, and education" (Creswell, 2013, p. 54). However, since its beginning, it has continued to evolve. Narratology was:

> Dominated by structuralist approaches at its beginning, Narratology has developed into a variety of theories, concepts, and analytic procedures. Its concepts and models are widely used as heuristic tools, and Narratological theorems play a central role in the exploration and modeling of our ability to produce and process narratives in a multitude of forms, media, context, and communicative practices. (Living Handbook of Narratology, 2011, para. 1)

Connelly and Clandinin (2006), provide the most widely used definition of this qualitative approach:

> People shape their daily lives by stories of who they and others are and as they interpret their past in terms of these stories. Story, in the current idiom, is a portal through which a person entered the world and by which their experience of the world is interpreted and made personally meaningful. Narrative Inquiry, the study of experience as story, then, is first and foremost a way of thinking about experience. Narrative Inquiry as a methodology entails a view of a phenomenon. To use Narrative Inquiry methodology is to adopt a particular view of experience as phenomenon under study. (p. 477)

Clandinin and Connelly (1996) found narrative inquiry research to be effective whether the focus is on a place (school, classroom), school issue (racism), or pedagogical practice (team teaching). The landscape or context of the stories they captured in their research led to critical unveiling or an insight of not just what teachers' professional knowledge

might be but how they know what they know. Clandinin and Connelly (1986) used narratives to deepen understanding of classroom teaching practice. Shadowing two science teachers, they connected the diverse elements of the school, the teachers' lives, the teachers' perspectives of the students' lives and their futures. These qualitative researchers also conducted research highlighting teaching and stories shaping educators' professional identities (Clandinin & Connelly, 1999). Drawing a two-pronged agenda for narrative inquires about teaching, Clandinin and Connelly (1990) stated, "We need to listen closely to teachers and other learners and to the stories of their lives in and out of classrooms. We also need to tell our own stories as we live our own collaborative researcher/teacher lives" (p. 12). To understand the experiences of teachers teaching in a blended learning classroom environment, narrative inquiry is an ideal research method to use. It allows participants' voices to be heard so that educators and administrators can hear first-hand their experience and support future successful implementation through strategic professional development.

Clandinin and Connelly's (1998) description of stories align with the intent of my study. They stated, "stories are the closest we can come to experience as we and others tell of our experience" (p. 155). In a narrative inquiry, it is impossible for the researcher to stay objective, distant, and unattached to the situation (Clandinin & Connelly, 2000). This type of inquiry is appropriate because of my role in blended learning within River Valley Public Schools. The story aspect is a complete entity with a beginning, middle, and an end. From these stories I gained the insight needed to enhance professional development opportunities to better meet the individual needs of the teachers. I interpreted and share the stories, interviews, and observations with the intent to provide

thick rich description. Each of these components has equal value in the data collection process. My personal experience and insight working in River Valley Public Schools supporting the blended learning initiative brings to the forefront the theoretical perspective of heuristic inquiry integrated with both case study and narrative inquiry.

Heuristic Inquiry. Patton (2015) suggests that "heuristics is a form of phenomenological inquiry that brings to the fore the personal experience and insights of the researcher" (p. 118). The core inquiry question for a heuristic inquiry is: "What is my experience of this phenomenon and the essential experience of others who also experience this phenomenon intensely" (Patton, 2015, p.98)? I incorporated heuristic inquiry into my study because I have been in education for eighteen years as a teacher and administrator and this tradition allows me to use my personal experiences to add value to the research. I have also supported teachers implementing the blended learning model in River Valley Public Schools for the last couple years.

Moustakas (1990) states, the heuristic process is a way of being informed, a way of knowing.

> Whatever presents itself in the consciousness of the investigator as perception, sense, intuition, or knowledge represents an invitation for further elucidation. What appears, what shows itself as itself, cast a light that enables one to come to know more fully what something is and means. (p. 10-11)

This approach helped me see others' beliefs and examine my own throughout the study. Heuristic inquiry is a unique research method that places human experiences above numbers and is deeply rooted in knowledge that leads to a deeply subjective and creative connection between the researcher and phenomenon (Sela-Smith, 2002). Sela-Smith (2002) observed several characteristics of the heuristic process, which included the following:

> The goal is to come to a deeper understanding of whatever is calling out from the inside of the self to be understood. In the process, the researcher is coming to understand something within that is also a human problem or experience. The researcher uses data within to lift into awareness the experiences that are felt and trigger the being of the researcher. In this lifting, an awakening, a greater self-understanding, and a personal growth occur and combine to produce self-transformation. (p. 64)

Heuristic inquiry does not exclude the researcher from the study; rather it incorporates the researcher's experiences with the experiences of co-researchers. The researcher is required to have a direct experience of the phenomenon in question (Moustakas, 1990) to discover its essence and meaning. As such, "heuristics is concerned with meanings, not measurements; with essence, not appearance; with quality, not quantity; with experience, not behavior" (Douglas & Moustakas, 1984, p. 42). I have experience teaching in the blended learning environment and leading others using a blended learning model. Since I have this direct experience, there is a connection to the phenomena in question.

Heuristic research differs from other methodologies in that it views the researcher as a participant. In heuristic research, researchers pursue the inherent truth of the meaning of the phenomenon through a process of reflective learning that is self-directed, self-motivated, and open to spontaneous changes in direction (Douglas & Moustakas, 1985). It is the researcher who creates the story that depicts deep meanings and essences of unique human experiences (Moustakas, 1990). This type of research is inherently personal and allows for participants to have their stories understood and their voices heard. Braud and Anderson (1998) believed that "many of the most significant and exciting life events and extraordinary experiences – moments of clarity, illumination, and healing – have been systematically excluded from conventional research" (p. 3). As the qualitative researcher in this study, my role is to best understand how the participants

came to understand their experiences with teaching using the blended learning model. Since I have a shared experience with the participants in the case study, I was able to interpret their experiences and provide meaning.

Hence, I must be clear about my role. Defining the role of the researcher is instrumental in conducting a heuristic narratological case study. The researcher implements the study, collects the data, analyzes the data, and shares the findings.

The Role of the Researcher

The heuristic nature of the study, places me, as the primary instrument, in a unique role within the study. In a qualitative study, the researcher functions as the primary instrument of data collection and analysis. With this being the case, the background information about the researcher is pertinent to the credibility of the design (Merriam, 2009). Furthermore, explained Gagnon (2010), the researcher's personal characteristics can have a significant impact on the study results. Marshall and Rossman (2011) discussed the need for all researchers to demonstrate that their personality will not bias the study in any way. Although it is impossible to eliminate the researcher's preconceived theories, beliefs, and perceptual lens, it is imperative that the researcher avoids the negative consequences of these (Maxwell, 2013).

With the researcher, as primary instrument, my focus is on the implementation of the study design, the collection of data, the analysis of that data, and on my findings. Patton (2015) stated:

> Judgments about the significance of findings are thus inevitably connected to the research's credibility, competence, thoroughness, and integrity…be attentive to and conscious of the cultural, political, social, linguistic, and ideological origins of one's own perspective and voice as well as the perspective and voices of those one interviews and those to whom one reports. (p. 73)

As a building principal of a school district that is implementing the blended learning model, I became immersed in the data, which enabled me to have greater insight and understandings in the analysis of the data (Yin, 2009). The combination of my experience with blended learning and working with these individual teachers in the study support the credibility and validity of the findings.

Design of the Study

Site Selection

The study took place in eight classrooms with teachers using the blended learning model, each located within a suburban school district in the Midwest. River Valley Public Schools currently has fourteen elementary schools, four middle schools, and two high schools. The school district has a total of 11,840 students and 980 certified teachers. Approximately forty-seven percent of students are female and fifty-three percent are male. Sixty-nine percent of the students are White; eight percent are Hispanic, six percent are African American and sixteen percent are Other. The school district demographics have remained the same over the last five years and this trend is expected to continue to stay the same. In River Valley Public Schools, each blended learning kindergarten-twelfth grade classroom is outfitted with furniture that is different from the traditional classroom. In the traditional classroom, there are individual desks for each individual student averaging twenty-four students per classroom. Technology in the traditional classroom consists of two desktop computers and one teacher laptop. There is a whiteboard at the "front" of the room. In the blended learning classroom, traditional student desks have been replaced with round tables fitting between four and five students. Each classroom has an average of twenty-four students, however, there are no assigned

seats and no “front” of the room. The teacher desk has been replaced with a “kidney” style table for students to also use as a space for learning. There is a SMART projector on one wall of the classroom and additional whiteboards on the remaining walls. Technology includes two collaboration stations (thirty-two inch TV connected to a computer), ten personal devices, either laptops or iPads, an Apple TV, and a teacher laptop. In middle and high school, students have access to their own personal device. In middle school this is an iPad and in high school it is a MacBook Air. Students can checkout a “Kajeet SmartSpot” to have anytime, anywhere filtered Internet access. The Kajeet SmartSpot allows the school district to provide students CIPA-compliant, 4G-LTE Internet access outside the classroom so they can complete required assignments and homework.

Participant Selection

The specific teachers selected to participate in the study work in the River Valley Public Schools. I collected data in three elementary classrooms, three middle school classrooms, and two high school classrooms. Participants in the study were from the following grade levels: first, third, fifth, two sixth, seventh, and high school subject areas of social studies and science. A total of six buildings were involved in the study, including two elementary schools, three middle schools, and one high school.

I used criterion-sampling techniques to recruit my participants. This form of sampling is a form of purposeful sampling, which supports the nature of qualitative inquiry and meets specific criteria in the selection of the participants. Achieving representativeness, capturing heterogeneity, and selecting specific individuals/participants that enable the researcher to answer the research question are

critical when utilizing purposeful sampling (Maxwell 2005). "Criterion sampling involves selecting cases that meet some predetermined criterion of importance" (Patton, 2015, p. 281).

Patton (2015) stated that, "all cases in the data system that exhibit certain predetermined criterion characteristics are routinely identified for in-depth, qualitative analysis" (p. 281). Laverty (2003) asserted the importance of utilizing participants that have experience with phenomenon being investigated.

I used the following criteria:

- Current teacher in the elementary, middle or high school environment within River Valley Public Schools that is part of the blended learning initiative.
- A mixed sampling of participants based on race, ethnicity, and gender.
- Has taught both in a traditional learning environment and blended learning environment.
- Agreed to participate in the study.

Data Collection

Miles and Huberman (2013) asserted that the researcher can focus on "naturally occurring ordinary events in its natural setting" (p. 10). I collected the data for my study in the natural settings in which the teachers work daily (Creswell, 2007). In my study, I used multiple data sources, which include: (1) written narratives, (2) interviews, and (3) classroom observations. Data was contextualized and varied by teacher depending on the grade level that they teach (kindergarten-twelfth grade), subject areas, and the building in which they teach. I was visible in the classrooms while I conducting my observations;

however, I did not interrupt the teaching and learning taking place since students were not present.

Written documents. The written narrative was used as the primary data source for this study, furnishing the rich data of their experiences teaching in a blended learning classroom environment. The written narrative allowed teachers' voices to be shared and heard as intended. Bogdan and Biklen (2007) concluded that documents "can be categorized as personal documents, official documents, and popular culture documents. Sometimes these documents are used with or in support of the participants' interviews and observations" (p. 133). Personal documents are a reliable source of data concerning a person's attitudes, beliefs, and views of the world" (Merriam, 1998, p. 116). I used an open-ended and reflective prompt that required participants to respond in writing about their experiences teaching in a blended learning environment. After explaining the purpose of the study and gaining their written consents, participants were asked to respond to the following prompt: Please share your experiences with teaching blended learning beginning with your first lesson and concluding with current teaching experiences, what are the benefits for students, and what is needed to enhance your teaching?

Narratives are a vehicle for educators to reflect on their teaching practices and explore queries they have about their professional decisions. Through narratives, individuals see and understand the world (Clandinin & Connelly, 2000). Patton (2015) shared

> Records, documents, artifacts and archives…constitute a particularly rich source of information about many organizations and programs…in contemporary society, all kinds of entities leave a trail of paper and artifacts, a kind of spoor that can be minded as part of field work. (p. 376)

There were no specific guidelines or formats for participants to follow. Participants were just asked to share their experiences or the "journey" they have had when it comes to teaching in a blended learning environment. I collected the written narrative documents prior to completing interviews.

Interviews. "Qualitative interviewing begins with the assumption that the perspective of others is meaningful, knowable, and able to be made explicit. We interview to find out what is in and on someone else's mind, to gather their stories" (Patton, 2002, p. 341). Qualitative interviews, indicated deMarris (2004), "are used when researchers want to gain in-depth knowledge from participants about particular phenomena, experiences, or sets of experiences" (p. 51). I used qualitative interviews for my research study because I am interested in the experiences of teachers teaching in a blended learning classroom environment. By interviewing specific blended learning teachers, they were able to share their lived experiences so that I could understand their personal story and gather information that I may not interpret by looking at their written narrative or participating in observations. Interviews concurred Lincoln and Guba (1985) "support the extrapolation of the constructed meanings of individuals, events, activities, organizations, feelings, motivations, claims, and other subjective experiences, of the past and future." The interviews allowed me to extrapolate the constructed meanings of the events and experiences of these eight teachers.

Participants were interviewed using a semi-structured interview to gather data that may not have been shared in their narrative writing. (see Appendix A: Interview Protocol). Semi-structured interviews utilize a general set of questions with all participants; however, interviews will vary with the context of each situation and allow

the researcher to capture participants' worldviews and new ideas (Merriam, 1998). Merriam (1998) provided more detail about the process of semi-structured interview:

> More open-ended and less structure, guided by a list of questions or issues to be explored, and neither the exact wording nor the order of the questions is determined ahead of time. This format allows the researcher to respond to the situation at hand, to the emerging worldview of the respondent. (p. 74)

This type of semi-structured method allowed me to expand my questioning depending on the experiences of the participants, resulting in a contextualized interview. deMarris (2004) states, "The essence of an experience emerges from interview data as participants describe the particular aspects of the experience as they lived it" (p. 57). By interviewing blended learning teachers, I wanted to understand their experiences first hand. deMarris (2004) explained that, "Researchers seek to discover the essence or structure of the experience through an interpretation of the rich, textual, data provided by participants describing the particular experience" (p. 57). The data acquired from the interviews allows the researcher to share the rich data in the study and provide information for teachers and administrators on the characteristics and components that highly effective teachers need to successfully teach in a blended classroom. With a deeper level of understanding, educators can begin providing professional learning opportunities to develop and enhance their individual growth.

After conducting the semi-structured interview with each participant, I read the transcript multiple times. During the reading of the transcript, I began coding different components to recognize themes in the data. This coding supported the drawing of connections to themes from the written narrative document and the classroom observation. Lastly, two classroom observations were completed for each teacher to gather data on the physical environment and overall atmosphere of the classroom.

Observations. For this study, I observed each teacher two times. I utilized the observation guide (see Appendix B: Observation Protocol) when completing each observation. The first-order purposes of observational data are to describe the setting that was observed, the activities that took place in that setting, and meanings of what was observed from the perspectives of those observing (Patton, 2015). Direct observation is important because it is a time when data is gathered giving the researcher an opportunity to observe relevant behaviors and environment conditions and serves a purpose to aid in the understanding of the phenomena (Yin, 2009).

Angrosino (2005) delineated three basic types of qualitative observation. The first type is participant observation, which involves the researcher interacting with the participants and even joining them in the everyday lives. Reactive observation is the second type, which takes place in controlled settings with participants being aware of being observed but only interacting minimally. The third type is unobtrusive or nonreactive observation, which is conducted without the awareness of those being observed. The position of the researcher is discussed as either "insider" or "outsider" as it relates to their relationship with the participants.

For the study, I assumed the role of an onlooker observer with an insider perspective (Denzin & Lincoln, 2011; Patton, 2002). As the researcher, I share the characteristics, roles, and experiences with the participants (Buckle & Dwyer, 2009). The observation occurred in the participants' natural setting, implementing the blended learning teaching strategy. Bogdan and Biklen (2007) proposed that after each observation the researcher find a quiet place where they can chronologically and methodically record their observations with the key being their attention to detail. These

preliminary notes form an outline for when the researcher sits down at the end of the day to type out complete notes.

Data Analysis Procedures

The data I collected in the study included the stories, interviews, and observations. Each of these components has equal value in the data collection process. The progression of inquiry involved application of the six phases offered by Moustakas (1990) as the main lens for data analysis, which include "initial engagement, immersion, incubation, illumination, explication, and culmination of the research in a creative synthesis" (p. 27).

Initial engagement is the first phase of the progression of inquiry. My engagement with this topic started on my first day of teaching years ago as a third-grade teacher. At that time, the focus was on incorporating technology into my lessons and not about using a blended learning model as an instructional tool. In the last couple years, my involvement in the topic has increased dramatically as I have been providing leadership and support to teachers in the K-12 environment implementing the blended learning model into their classrooms. The more I have engaged with these colleagues the more passionate I have become about incorporating the blended learning model in every classroom. Moustakas (1990) shared,

> Within each researcher exists a topic, problem, or question that represents a critical interest and area of search. The task of the initial engagement is to discover an intense interest, a passionate concern that calls out to the researcher, one that holds important social meanings and personal, compelling implications. (p. 27)

This passion to support teachers teaching in a blended learning environment has grown even stronger since becoming a building principal. At my building, meeting the needs of

each student is at the forefront of our day. I want to provide professional development to teachers so they can successfully implement this instructional strategy to meet those student needs.

Immersion is the second phase. The driving force of my immersion in this research question was my connection with the blended learning teachers I support at River Valley Public Schools. I have engaged in dialogue over the past couple years in every waking moment with teachers, administrators, and other educational professionals. This state "requires my full presence, to savor, appreciate, smell, touch, taste, feel, know without concrete goal or purpose" (Moustakas, 1981, p. 56). Patton (2002) states, the researcher's total life and being are centered in the experience. Moustakas (1990) shared,

> Once the question is discovered and its terms defined and clarifies, the researcher lives the question in waking, sleeping, and even dream states. The immersion process enables the researcher to come to be on intimate terms with the question – to live it and grow in knowledge and understanding of it. (p. 28)

Being an educational leader in blended learning and growing a program from a pilot study to a sustained initiative in a school district takes numerous hours of reflection and growth. My continued immersion in this study helped me gain a clearer understanding of what teachers are experiencing through their own stories. Throughout the immersion phase, I continued to read relevant literature and have had ongoing discussion, discourse, and dialogue with teachers. Also included in the immersion phase is the data collection process. For the study, I collected narrative written reflection documents, semi-structured interview data, and classroom observations for eight different teachers in the elementary school, middle school, and high school settings.

The third phase is incubation. This is a time where I waited and allowed time for understanding. Patton (2015) says this stage leads the way toward a clear and profound awareness of the experience and its meanings. Moustakas (1990) shares,

> Incubation is the process in which the researcher retreats from the intense, concentrated focus of the question. Although the researcher is moving on a totally different path, detached from involvement with the question, the expansion of the knowledge is taking place. (p. 28)

Making connections from the stories of the participants with my own personal experiences continued to expand and deepen my understanding of the teachers' implementation of the blended learning model of instruction.

The fourth phase in this process is illumination. During this phase, Patton (2015) states, critical textures, and structures are revealed so that the experience is known in all its essential parameters. In this phase, enumerative and thematic coding process was used to examine and record patterns or themes within the data. Themes are patterns across data sets that are important to the description of the phenomenon and are aligned to specific research questions. Grbich (2013) pointed out that enumerative inquiry "involves the listing or classifying of items by percentages, frequencies, ranked order, or whatever is useful to the research questions" (p. 24). Miles and Huberman (1994) indicated that, "Codes are tags or labels for assigning units of meaning to the descriptive or inferential information compiled during the study" (p. 56). Thematic analysis includes grouping those coded items into similar groups and classifying them into major themes. As the researcher, I began the process by defining simple descriptive codes, and then cluster them into interpretive codes. A codebook was developed with defined themes based on the conceptual framework and research questions.

This coding process also allowed me to establish patterns or themes to create rich thick descriptions of the study findings (Grbich, 2013). Grbich (2013) stated, "the researcher's creation of coding frames and highlights certain aspects of the text, providing the reader with one particular view" (p. 112). Further, "as the repetition of words in content analysis is assumed to indicate their level of importance in the document, enumerative information is favored in terms of gathering and assessing data" (p. 114).

Patton (2015) states, themes and patterns emerge forming clusters and parallels. The themes and patterns that surface from the data is the information I am interested in sharing. Moustakas (1990) describes the process of illumination as "one that occurs naturally when the researcher is open and receptive to tacit knowledge and intuition. The illumination as such is a breakthrough into conscious awareness of qualities and a clustering of qualities into themes inherent in the question" (p. 29). The data is a necessary component to increasing the professional development for teachers implementing the blended learning model. Grbich (2007) explained:

> Content analysis is a systematic coding and categorizing approach which you can use to unobtrusively explore large amounts of textual information in order to ascertain the trends and patterns of words used, their frequency, their relationships and the structures and discourses of communication. (p. 112)

This incorporation of coding helped make connections between the written narrative document, the semi-structured interview, and the classroom observation.

Moustakas (1990) describes this phase as the point in time when the researcher enters this process thoroughly familiar with all the data in its major constituents, qualities, and themes and in the explication of the meanings and details of the experience. Once the researcher has mastered knowledge of the material that illuminates and

explicated the question, the researcher is challenged to put the components and core themes into a creative synthesis.

The fifth phase is explication. In this phase is where a full unfolding of the experience occurs. Through focusing, self-dialogue, and reflection, the experience is depicted and further delineated (Patton, 2015). This is a period of deep clarification and revelation. "The purpose of the explication phase is to fully examine what has awakened in consciousness, to understand its various layers and meaning" (Moustakas, 1990, p. 31). Moustakas (1990) refers to this new awareness as a "synthesis of fragmented knowledge" (p. 30).

The last phase is the creative synthesis phase. "Creative synthesis is bringing together of the pieces that have emerged into a total experience, showing patterns and relationships (Patton, 2015, p. 487). Moustakas (1990) described the creative synthesis of the heuristic experience in the following way:

> Once the researcher has mastered knowledge of the material that illuminates and explicates the question, the researcher is challenged to put the components and core themes into a creative synthesis. This usually takes the form of a narrative depiction utilizing verbatim material and examples, but it may be expressed in other creative form. (p. 31-32)

The methodology of comparing and synthesizing cases has been termed cross-case analysis (Miles & Huberman, 2013) or cross-case synthesis (Yin, 2009). Miles and Huberman (1994) defined cross-case analysis as searching for patterns, similarities, and differences across cases with similar variables and similar outcome measures. The themes and patterns are compared among each case to establish generalizations and establish a deeper level of understanding.

Cross-case analysis is incorporated as I share the results from the study and explore the implications of findings based upon these results. This information is presented in chapters 5 and 6.

Data Management

After collecting the narratives from participants, each one was read many times with the goal of understanding the meaning of their experiences. I memod using field notes to record the patterns I identified in the narratives and my reactions to their stories. This process helped me to begin to think about ways to code the data. Since pseudonyms were used in place of the participants' names, I placed a number on their narratives, and develop a master list with names and assigned numbers that were kept on a password-protected computer. I was the only person with access to the data. The same process was provided for the interview and observation transcriptions, so that narratives, interviews, and observations of everyone are labeled with matching participant identifiers.

The interviews were recorded on a digital recorder so all words for the interview can be captured. I explained the use of the recorded interviews to reassure participants of my intentions as a researcher. When completing the interviews and observation, I also organized the data by field notes. Bogdan and Bilkin (2007) discussed the content of field notes and the two types: descriptive and reflective. Descriptive refers to a way to provide a word-picture of the setting, people, actions, and conversations as observed. Reflective is described as the part that captures more of the observer's frame of mind, ideas, and concerns.

Bogdan and Bilkin (2007) described descriptive field notes encompassing the following areas; portraits of the subjects, reconstruction of dialogue, description of

physical setting, accounts of events, depiction of activities, and the observer's behavior. I considered these areas and specifically focused my attention on them greatly increasing the amount of rich data I acquired. Since my study identified the knowledge and skills teachers need to meet the needs of their students in a blended learning environment, I described in detail using the previously discussed areas and what I observed in each individual classroom.

Throughout data analysis and data management, I maintained an awareness of the conduct of ethical research and power dynamics that may affect my research. I spent enough time in the field to develop trust with my participants and to ensure them that my position in the district will in no way affect the work they do with students or the evaluation process. I was constantly aware of ways to report data honestly and openly, maintain awareness of my biases, validity, reliability, and ethical considerations by adhering to protocol for research with human subjects.

Factors Related to Limitations, Validity, Reliability, and Ethical Considerations

Limitations

For this study, I identified two limitations; the influence I have over the participants as a building principal and district leader and the interpretation of the data as a leader in the field of blended learning. As a building principal and district leader in River Valley Public Schools, I was aware of my biases that involved preconceived ideas about the knowledge and skills teachers need to teach in a blended learning environment. I have conducted numerous professional learning opportunities with all participants in the past on the topic of blended learning. This professional development included presenting information on the components of blended learning, and the five elements of personalized

learning, which may or may not be implemented in the participants' classrooms. I have also presented findings from blended learning implementation on behalf of River Valley Public Schools at national conferences. I was aware that a few of the participants could modify their written reflection, interview, and even the observations to enhance what is occurring. I explained this potential limitation to the participants to encourage honest answers to the written reflection, interview, and observations. I wanted the research to be credible to share what the needs are of teachers implementing the blended learning model. Explaining this possible limitation and how I dealt with it is key to the research proposal.

My biases from past and current experience with blended learning were guarded against using member checking. For further credibility, I used a data analysis method that emphasizes my direct involvement with the phenomenon, rather than excluding it. Once recorded, I transcribed the interviews and use member checking to strengthen trustworthiness of the data. Lincoln and Guba (1985) describe member checks as "the most crucial technique for establishing credibility" (p. 314) in a study. Member checking is when data, analytical categories, interpretations, and conclusions are tested with members of the groups from whom the data were originally obtained (Lincoln and Guba, 1985).

Member checking provides an opportunity to understand and assess what the participants intended through his or her actions, gives participants opportunity to correct errors and challenge what are perceived as wrong interpretations and gives an opportunity to summarize preliminary findings (Angen, 2000; Lincoln & Guba 1985; Morse, 1994). All interviews took place in the teacher's classroom or in another location and time

designated by the teacher. I took field notes as I complete the observation and then share the observation transcriptions with participants to review for clarity. This process provides transparency regarding my biases and interpretations of each participant's experience.

Validity

"Two important threats to the validity of qualitative conclusions are the selection of data that fit the researcher's existing theory or preconceptions and the selection of data that "stand out" to the researcher" (Miles & Huberman, 1994, p. 263). Understanding a bias can be an increase to the reliability and validity to the study. In the study, I utilize various approaches to establish trustworthiness and credibility. The use of crystallization, peer debriefing and member checks assist in creating credible findings as suggested by Lincoln and Guba (1985). Crystallization as defined by Ellingson (2009),

> Combines multiple forms of analysis and multiple genres of representation into a coherent text or series of related texts, building a rich and openly partial account of a phenomenon that problematizes its own construction, highlights researchers; vulnerabilities and optionality, makes claims about socially constructed meanings, and reveals the indeterminacy of knowledge claims even as it makes them. (p. 4)

I used peer-debriefing to provide an external check of my process and keep my work honest (Lincoln & Guba, 1985; Merriam 1988). In peer-debriefing, the researcher can uncover taken for granted biases, perspectives, and assumptions and become aware of their posture toward the data and its analysis. Finally, as previously discussed, I used member checks with each of the participants to establish validity. Member checks provide an opportunity to understand and assess what each participant intended, give participants ways to correct errors and challenge what are perceived as wrong intentions, and help to assess adequacy of data (Lincoln & Guba, 1985; Stake, 2010).

Validity is the measure of how well the findings match reality (Creswell & Miller, 2000; Gagnon, 2010: Merriam, 2009: Yin, 2009). Maxwell (2005) discussed methods and procedures for validity that are essential to the process of ruling out validity threats and increasing the credibility of your conclusions. Collection of rich data, and respondent validation, are two that Maxwell outlines in his methods and procedures, of which were included in the study. Maxwell (2005) also indicated that a researcher must help promote an understanding through rich description of the interpretation, concepts, and analysis of the findings. Three data sources provided crystallization and a thick description for validity purposes. Crystallization is the idea that observing or investigating various facets of an object of study can often best characterize the phenomenon under study (Ellingson, 2009; Richardson, 2000)

Reliability is what Miles and Huberman (1994) referred to as "quality control" (p.11). Reliability requires that the operations of the study, such as data collection, can be repeated. Transferability in qualitative research involves the transfer of knowledge from a study to a specific new situation. The reader or potential user of the findings identifies how the study can be applied in similar or new settings (Maxwell, 2005). For this reason, Shenton (2004) argued that it is vital that researchers convey the boundaries of the study: the number of organizations taking part in the study and their locations, any restrictions in the type of people who contributed to the data, the number of participants involved in the fieldwork, the data collection methods that were employed, the number and length of the data collection sessions, and the time over which the data were collected.

Ethical Considerations

The Belmont Report (1979) summarizes the boundaries between practice and research, the basic ethical principles and the applications to conduct research. This study is a research study where conclusion can be drawn and contribute to generalizable knowledge. Basic ethical principals include respect to persons, beneficence, and justices. Applications to conduct research include informed consent, risk/benefit assessment, and the selection of subjects of research. The components outlined in the Belmont Report have been included in the study. These components mirror the IRB review protocols for research using human subjects, guided by three overriding principals: inform subjects about the nature of the study and to ensure that their participation is voluntary, ensure that the benefits of the research outweigh the risks, and ensure the risks and benefits of research are evenly distributed among the possible subject populations.

Rubin and Rubin (2005) stressed that the conversational partnership of the responsive interview is based on a personal relationship between the interviewer and interviewees. This personal relationship generates ethical obligations for the researcher, because it can result in private information being shared (Rubin & Rubin). To address this privacy, I assigned identification numbers to each participant. I informed participants that their narrative writing, interview, and observations were shared with an outside observer. However only the identification number was used.

While this study should present little risk of harm to the participants, I am aware of the time commitment from these teachers in writing their narrative reflection, participating in the interview, and the two observations. I scheduled the interview and observations based upon each participant's unique schedule. The researcher utilized the

protocol of the ethical review designated by the University of Missouri-Kansas City's review Board or IRB. Because the Institutional Review Board (IRB) considers this research human subjects research, the researcher was required to obtain IRB certification and approval of the study. While this study involved teachers and a classroom observation, only adults were interviewed and students were not involved in the study. The researcher also completed the Collaborative Institutional Training Initiative (CITI) program in human research subject protection and exams within each course.

Summary

In this chapter, I provided an overview of the research design methods. This included the rational for qualitative research, an in-depth look at the theoretical traditions of Narratological, Heuristic Inquiry, and Case Study. A discussion of the study's design included the role of the researcher, details about the setting, sampling technique/procedures, and a description of the participants. Finally, the limitations, reliability, validity, and ethical considerations of the study were discussed.

In Chapter 5, a review of the data collection methods employed and participants' reactions to these are outlined along with the qualitative findings. The concluding chapter focuses on implications of the findings and recommendations for future research.

CHAPTER 5

FINDINGS

This heuristic narratological case study allowed me to utilize my personal experiences along with my professional experiences with the phenomenon to develop a story of the findings (Patton, 2015) related to the blended classroom learning environment. Most educators lack knowledge and skills to individually engage and personalize students' learning in classrooms purported to be a blended learning environment (iNACOL, 2006, 2011; Horn and Staker, 2011, 2012; Lindstrom and Speck, 2004; Means, Toyama, Murphy, Bakia and Jones, 2009; Vanderkam, 2013). The purpose of this heuristic narratological case study was to describe the specific components that teachers need in both their knowledge and skills to individually engage and personalize students learning in a blended learning classroom environment. The unit of analysis in conjunction with the research questions was centered on the experiences of eight elementary, middle, and high school teachers teaching in a blended learning environment. I had one central question and three sub questions. The central question was: What do teachers describe as the knowledge and skills they need to teach in a blended learning classroom? The sub questions included:

1) What themes are apparent in the stories that teachers tell about from their experiences in a blended learning classroom?
2) What differences do teachers describe in teaching between a traditional classroom and a blended learning classroom?

3) What are the personal barriers teachers faced when they began teaching in a blended learning classroom?

While these questions guided the design of the study and are linked to the conceptual and theoretical framework, the questions helped to make meaning of the phenomena of blended learning.

I have spent the last few years supporting teachers in a blended learning environment. However, I have not had the opportunity to hear directly from individual teachers about their experiences, nor encountered information or research on what knowledge and skills teachers voice as needed to successfully teach in a blended learning classroom environment (Attwell, 2007; Barbour and Ferdig, 2012; Horn and Staker, 2011; Jackson, 2014). The nature of this qualitative inquiry allowed me to discover new information and illuminate the participants' experiences. Through this process, I was able to describe the lived experiences of the following teachers: three first, third, and fifth grade teachers, two sixth grade teachers who taught social studies and math, a seventh grade reading teacher, and two high school teachers who taught social studies and science. In this chapter, I report on the themes and interpretive codes identified through within-case analysis of participants' narrative reflections, classroom observations, and interview data collected for this research study. Upon the conclusion of the eighth case, I also completed a cross-case analysis to determine which themes were common across the eight cases, which aided in answering the research questions.

Reflection about the Process

As I reflect upon this process, I am very fortunate to have been able to work with this group of teachers. In each one of these cases, participants shared their story about

teaching in a blended environment through narrative reflections and during the interview process teachers shared specific details about their experiences. Using classroom observations, I was able to connect their experiences to how their classrooms were designed. It was enlightening to hear their stories, see their classrooms, and reflect on the past few years of supporting them individually through this journey of teaching using the blended model of instruction. Listening to their voices, I learned what worked for them and ways to improve the implementation of blended learning. I am excited about what lies ahead in personalized learning using the blended learning model to support all students.

I felt strongly about conducting a qualitative study. The study was designed to interpret the meanings of participants' experiences teaching in a blended learning environment. The written and spoken words helped me share their stories and experiences. The individual stories and experiences were utilized to address the research questions centered on the phenomena. I plan to report the findings from the study to the district, in hopes that results continue to positively impact the direction and progress of this initiative for River Valley Public Schools. Identifying the knowledge and skills that teachers need to teach successfully in a blended learning classroom environment will address meeting the needs of students who are not achieving. By focusing on personalized learning for students using the blended learning model, specific learning needs can be met therefore increasing student achievement (Gullen & Zimmerman, 2013).

The experiences of each participant matched my own experiences in teaching and creating content to use to personalize instruction for students. The process of hearing

about their experience has helped me grow as an educational leader. As an educational leader I am more reflective on the needs of specific learners, i.e. the teachers in this case, and work to develop professional learning opportunities to meet their diverse needs. The most significant surprise for me has been the power of teacher relationships with students and teacher relationships with other teachers. This was not a focus of mine when providing professional learning opportunities for teachers. The focus was more on personalizing the learning for students to increase achievement levels and now after much reflection, it really comes down to the relationships, if we want to see an increase in student achievement.

Setting and Participants

The overall design and research methods employed in this research study were conducted according to a specific framework detailed in Chapter 4. The setting of this study was River Valley Public Schools (pseudonym) where I recruited eight teachers in grades first through high school. The participants were invited to participate based upon their experience using the blended learning model of instruction and my professional partnership supporting them in implementing blended learning in their classroom over the past four years. As mentioned, prior to the study, I had numerous encounters with the participants and supported them in this initiative within River Valley Public Schools. The strength I encountered during the data collection process as a result of knowing the participants in the study was the power of our prior relationships I had built over the past few years. These relationships supported an open dialogue between the participants and myself. The only barrier I encountered during the data collection process was not being able to continue to help and support them with their immediate questions. In the past, the

participants were used to posing questions and we would immediately problem solve together.

Data Analysis Procedures

The data collected in the study included a narrative writing, interview, and observations. Each of these components has equal value in the data collection process. The written narrative and semi-structured interview yielded thick rich statements from the participants. Unlike other studies, which call for the researcher to abandon their preconceived notions and understandings of the phenomenon, this being a heuristic study enabled me to use my experiences to interpret the data drawn from participants. I specifically chose the progression of inquiry involving the application of the six phases offered by Moustakas (1990) as the main lens for data analysis, which include "initial engagement, immersion, incubation, illumination, explication, and culmination of the research in a creative synthesis" (p. 27).

Each participant engaged in a semi-structured interview comprised of approximately nine questions with additional follow-up supporting questions (see Appendix A: Interview Protocol). Interviews were recorded and then transcribed and analyzed. The participants were also asked to compose a written narrative using an open-ended prompt to share their experience teaching in a blended learning classroom environment. I did not impose any requirements for the length, they were allowed to write as much and as freely as they liked. Each participant submitted the written document to me, which varied in length. The length ranged from a couple of paragraphs to a couple of pages. Additionally I conducted classroom observations, taking note of the classroom set-up and appearance (see Appendix B: Observation Protocol). An

enumerative and thematic coding process was used to examine and record patterns or themes within each data set.

The data collection phase was completed over a timeline of three months, beginning at around the middle of July 2017 and ended October 15, 2017. This period gave me the opportunity to conduct member checking which allowed the participants to examine and correct interview transcripts. Following this activity, I went back and forth between participants to verify any confusion or misunderstanding related to the interpretations of the findings. Because the setting is in the school district where I work and the data collection occurred mostly during the summer, teachers were more easily accessible. Each of the interviews lasted approximately thirty to forty minutes and was completed after receiving the participants' written narrative. The classroom observations were the last to be completed.

As I read each narrative reflection and listened to each participant during the interviews, I could hear the passion in their voice around this subject. They were eager to share their experiences to help other teachers. For some, they did not want others to have the same experiences and felt that their insights could help improve the initiative. It reaffirmed my passion for this instructional model. I realized just how critical this study was for advancing the initiative and implementation of the model in River Valley Public Schools. Throughout each interview, I was able to speak openly with each participant. The interviews seemed very authentic. I know that these conversations will continue in the future and I look forward to my collaboration with each of them.

To conduct a valid and reliable study I utilized various approaches to establish trustworthiness and credibility. Crystallization was practiced through multiple data

sources of the written narrative, observations, and interviews. Memoing my experiences was also applied to crystallize the finding. When I would compete an interview or while I was reflecting back on the other two data sources, I would memo, making connections to my own experience with blended learning. One example is after my second observation in a high school classroom; I was conscious of how the furniture was set-up to encourage collaboration, now that the round tables have been removed, how will this affect collaboration, dialogue and discourse amongst students. A second example is when I was reflecting on the fifth grade teachers experience and barriers with her other colleagues. I never realized the struggle teachers face when beginning the blended learning journey and the feelings of isolation they experienced.

My goal for completing this research study was because of the passion I have for supporting teachers and students at River Valley Public Schools. As a principal with a vision of personalizing learning for students, to increase their academic achievement, this study adds to the body of literature regarding personalized learning in K-12 public schools. Aware that I was supporting teachers as they incorporate the model of blended learning to personalize instruction for students, I sought to understand at a deeper level what teachers were experiencing and what teachers needed to be successful teaching in this environment.

Within-Case Analysis

Throughout this study, five major themes were identified in the data collected through the written narrative, individual interviews, and classroom observation. These themes included; *instructional format, differentiated instruction, data driven instruction, relationships, and professional learning*. In this study, interpretive codes were used when

considering a theme. Each interpretive code was derived from multiple descriptive codes that determined its meaning as defined in the methodology. The findings in the within-case analysis are organized by each participant in the following order: narrative of their experiences, brief introduction of participant, description of classroom organization and structures, and an integrated description of each case which includes themes identified in the narrative and interviews. The observations serve as data to support themes in that they depict how classrooms were organized and resources present to support blended learning. I was careful to protect the identity of children or their interactions with the teachers. Narratives of their experiences with blended learning were generated by the narrative prompt: Please share your experiences with teaching blended learning beginning with your first lesson and concluding with current teaching experiences. What are the benefits for students and what is needed to enhance your teaching? Individual narratives, classroom observations, and in-depth interviews provide the reader a holistic view of each participant and an opportunity to learn from the experiences of teachers' instructional practices in a blended learning.

Each case is the story of their lived experiences while teaching in a blended learning classroom environment. The following cases share the stories of Sally, Jason, Dawn, Tony, Carolyn, Kristen, Charles, and Andrew. They are presented in no particular order each having equal value.

Case 1 – Sally

Sally shared the following in her written narrative:

Blended learning has been a part of my classroom since my first day of teaching in LPS (7 years total, I taught 1 year in Pre-K before that). I almost don't know how teach

without certain aspects of it. The first lesson I taught with blended learning in mind was a small step. I had already been blending math, science and social studies without really knowing that was what it was called but I wanted to see what I could do with reading so that is where my official blended learning experience began. At the time I was using my own website to display goals for reading intervention with each group of students (students were grouped by like ability). Almost all of the "blending" was simply replacing what I was already doing on to technology so students had more autonomy. This worked well at the time but it was not what I was hoping it would be. Although it did free up some time and I appreciated more time to dedicate to direct interventions with students.

Today, my classroom is the same in some ways but completely different in others. I think I focus my time less on content and more on responsive instruction. There are a few aspects of my classroom that at this point are non-negotiable to me. Those things being student driven questioning, student collected academic data, and my role as developer of learning. The benefits for students have been varied but I think positive. Teaching first grade, there are something's that students and parents can push back on, one of which is the idea that "standards are off the table". Usually after a few weeks in my class this becomes a non-issue but I find it interesting that some variation of this comes up every single year. Parents sometimes worry that too much pressure is being put on such young students but after some experience in our classroom parents can see that it is not about pressure and instead focuses on students individual needs and wants. Students have become very excited about asking questions and their test scores show that

they are learning at a quicker rate. Especially my typically low achieving students, although all student show growth.

I would love to experience more classrooms. This is the most important thing for my own professional learning. I am someone who seeks out new ideas and reads about new teaching approaches without any other incentive but learning from other teacher is missing. Ideally I would like to visit teachers casually and formally with time to talk and ask questions. I would also really enjoy being individually coached, similar to what happens in a student teaching setting.

Sally is a first grade teacher in River Valley Public Schools. In speaking with Sally, I could immediately see and hear her passion for teaching primary level students. She was eager to share with me her experiences teaching in a blended learning classroom environment. Sally has been teaching in this building for seven years, the last five years in a blended environment. The school in which Sally teaches in has approximately two hundred twelve students, sixty percent of the students are considered White, five percent of the students are considered African-American, ten percent of the students are considered Hispanic, and twenty-five percent are Other. Sixty-six percent of the students are economically disadvantaged (State Department of Education, 2016). During the classrooms observations I noticed that her classroom is set-up with trapezoid tables. There are nine trapezoid tables at chair height and four that are at the height for students to sit on the floor to access. There is a kidney style table used for small group instruction, a small table with a TV, and a computer hooked to it being used as a collaboration station. Sally has seats for twenty students, including traditional chairs and “wobble

seats." Students in this classroom have access to ten additional computing devices, five iPads, and five laptops.

Instructional format. The first theme identified in the written narrative and the interview with Sally was instructional format. For the purpose of this study, instructional format is defined as how instruction is presented to students through the classroom lessons and activities including the use of technology integration. The interpretive codes that supported the emergence of this them included format of lessons/activities and technology integration. Instruction in schools has been redesigned with a focus on learning with college and career readiness at a faster pace and with more efficiency (Garrison & Kanuka, 2004). Blended learning provides opportunities for online instructional delivery for a portion of the day to provide for deeper learning and higher productivity. Blended learning is a growing instructional trend that, when implemented effectively, has provided the benefits of teacher interaction while also offering students learning opportunities (Osguthorpe & Graham, 2003).

Technology integration was the interpretive code that emerged throughout the written narrative and interview with Sally, which directly tied to the theme of instructional format. Technology integration is defined as how the technology is being used in the classroom for lessons and activities. Some of the descriptors related to this interpretive code of technology integration include a learning management system (LMS), incorporating technology, and teaching students how to properly use technology in an educational setting. A LMS can be thought of as online spaces used to organize course materials and can be used to support face-to-face, distributed, or blended instruction. The online platform generally requires a login authorization to access a

specific course where readings, videos, discussion groups, and private messaging options are available to course participants. Throughout the data collection process, incorporating technology through a learning management system appeared as a critical factor in teaching lessons in her classroom. In the written narrative Sally stated,

> The first lesson I taught with blended learning in mind was a small step. I had already been blending math, science and social studies without really knowing that was what it was called but I wanted to see what I could do with reading so that is where my official blended learning experience began. At the time I was using my own website to display goals for reading intervention with each group of students (students were grouped by like ability). Almost all of the "blending" was simply replacing what I was already doing on to technology so students had more autonomy.

During the interview, Sally shared that she uses a variety of learning management systems. She uses one for the collaboration tools, another for the interactive parts, and one as a placeholder for assignments and lessons.

Differentiated instruction. Another theme that surfaced throughout the analyzing of the interview data with Sally was differentiated instruction. For the purpose of this study, differentiated instruction is defined as the different activities and lessons provided for students based upon their learning choice. The interpretive code of differentiate instruction supports this theme. It is important for teachers to understand their students' capabilities and how much they can handle (Barenfanger, 2005). Using a blend of online resources and traditional teaching is a way to balance instructional time, reorganize curriculum, and provide deeper learning opportunities (Gullen & Zimmerman, 2013). Sally shared in her interview that when she thinks about the definition of blended learning she feels "is a blended approach to have kids that are actively learning. So that may be using technology, no technology, maybe in partners, maybe by themselves, or maybe just individually. It means less lecture and meeting the kids where they are at."

Differentiated instruction was the interpretive code that emerged throughout the data collection process with Sally. Differentiated instruction is defined as providing different activities and lessons for students. Descriptors included differentiation and student choice. During the interview, the importance of differentiation was shared numerous times by Sally. Sally personalizes her students learning using data. She uses the learning continuum ladder provided by the MAP (Measurement of Academic Progress) assessment to fill the necessary gaps and provides extension opportunities. Sally shared "I like that I can spend my time for specific learning and I'm not wasting time on what students already know. An example she shared is that by "differentiating learning for each specific student, one student can be stuck on a concept, while the rest of the students can be working on their specific learning targets." Sally elaborates by stating,

> Using the blended learning model to personalize and differentiate learning has allowed students to be more engaged, they are all engaging in different ways. I would say 90% of their day is talking, not just listening to the teacher do the talking, so I think they are more engaged. Differentiation has helped my low-level students and all of them have made growth. Students with IEPs have made the most growth. It is neat to see how quickly they can progress because we are targeting them with specific interventions all day long instead of just occasionally. I also think incorporating student choice into the learning is a big part. Activities are focused on how a student chooses to learn, be it in a small group, one-on-one, a specific skill at a specific time or by incorporating technology.

Professional learning. The final theme that emerged within Sally's written narrative and interview was professional learning. The interpretive codes that developed this theme were professional learning and the creation of content and curriculum to teach in a blended learning classroom environment. Professional learning is defined as the learning provided to teachers so they can successfully teach in a blended learning classroom environment. The focus of professional learning is on the continued growth of

the individual to support learning opportunities for students. Teachers will need support in their professional learning to enhance their current teaching practices (Christensen 2013; Clement 2007; Horn 2011, 2012; iNACOL, 2011; Staker, 2012). Teachers need to participate in professional development to learn about models to personalize learning. The focus needs to be on adaptable instruction and using constant real-time data, thus freeing up educators to work with individual students and self-directed student learning (Bateman, 2016). Professional development, as it relates to personalized learning in a blended learning environment, means the topics and sessions need to be personalized for the educators attending. Modeling personalized learning using the blended learning model for educators will transfer, connect, and support what is happening in the classroom (Christensen 2013; Clement 2007; Horn 2011, 2012; iNACOL, 2011; Staker, 2012).

Throughout my interview with Sally and in her written narrative, professional learning was a key indicator of need. Sally stated in her narrative,

> I would love to experience more classrooms. This is the most important thing for my own professional learning. I am someone who seeks out new ideas and reads about new teaching approaches without any other incentive but learning from other teacher is missing. Ideally, I would like to visit teachers casually and formally with time to talk and ask questions. I would also really enjoy being individually coached, similar to what happens in a student teaching setting.

The time it takes to create content or find resources is a descriptive code related to the theme of professional learning. Sally specified in the interview that,

> Teachers need ideas from each other and they need to see others in action. Sharing ideas and lessons among teachers will save time and support more opportunities to differentiate the learning for all students. In a blended learning model, the amount of work that is put into every concept is tremendously more because you are planning for so many different scenarios and student needs.

Case 2 - Jason

Jason shared the following in his written reflection on his experience teaching in a blended learning classroom environment:

Wow, that is a big topic! When I first started out, I felt as though no one could really define or describe this thing called blended learning. I was really unsure of the expectations. The first lessons I recall doing were based around a format of providing guiding question, some materials, and asking for a product (choices of product provided) to demonstrate understanding. I had a few questions/prompts that could be used if needed and the resources really should have been adequate.

What I found was that students had spent years being trained to complete tasks, to fill in blanks, to do what they thought we wanted them to do. As a result, they didn't really have the skills to work in groups, manage their time, co-create products, and critically look at each others' contributions.

There was also a great deal of confusion in my mind with regards to what was expected of me as a teacher. There was our learning portal, Blackboard, which had to be learned, there were philosophical questions to ponder, and so much more. I am naturally skeptical, so I wasn't sure how to deal with a system that appeared to allow some students to fail - (which is what I was seeing in other blended classrooms and strategies). I was told by at least one top administrator that, "It wasn't like they were succeeding in a traditional classroom" and things like that, but I didn't really agree with that perspective fully.

There was a shift in teaching practice (still is) occurring, a shift in the standards to Common Core and NGSS, a shift in the manner in which students engage their world,

AND this blended "thing" at the same time. Then and now a lot of changes were filtering through a system, but without any real supports in place, few exemplars of success, few guideposts.

I started working a lot in language arts and I was becoming fairly successful in differentiating things when suddenly the district implemented "Reading Street," which is really not conducive to blended learning, especially when one is directed to "implement with fidelity" and given a "must-do" list that contained more things to do (with minimum time requirements) than there were or are minutes in a 2 to 2 1/2 hour language arts period. This really yanked the rug out from under my blended efforts, so I turned toward math.

I devised my own math course utilizing various resources including the district's math program, but also many other resources. I based it around the standards, changing the instructional sequence away from the Math Expressions text, shortening the amount of time on some concepts and greatly extending it on others. I focused on building conceptual understanding rather than explaining math concepts. The explaining would come from the children to each other.

I set this up so students could work at their own pace, or work with others and so there were built in opportunities to extend, re-teach/additional practice, apply, and so forth.

Jason and I have worked closely together for the last couple of years. During that time, we have had in-depth discussions on personalized learning and teaching using the blended learning instructional model. My experience as a third grade teacher for most of my career meshed well with his teaching experience and led to dialog and discourse

surrounding this topic. I have always enjoyed learning with and along side Jason. Jason was very open throughout the interview and in his written narrative. Jason's interview was one of the longer interviews because of the rich discussion we were having.

Jason is currently teaching third grade. The school in which Jason teaches in is the same school as Sally. The demographics for this school are stated earlier in this chapter. My classroom observations indicated there are eleven trapezoid tables. About half the tables are grouped together and the other half is in rows. There is seating for eighteen students in this classroom including a spot for a collaboration station (computer and TV) and a kidney style table used for small groups. Students have access to ten devices, five laptops, and five iPads. There are two large whiteboards hanging in the classroom and a couple of posters on the walls. One poster stood out to me, sharing the steps to solving a problem. I know based on the conversations I had in the past, student problem solving and critical thinking is a focus in Jason's classroom. Jason has very high expectations for his students and believes that all students can achieve at high levels. The themes identified in his data support my past perceptions and experiences working with Jason.

Differentiated instruction. The first theme discovered in the analysis of Jason's narrative reflection and interview data was differentiated instruction. The interpretive codes of differentiation (providing different activities and lessons for students) and student choice on the way a student chooses to learn the content or curriculum connected to this theme. It is obvious that Jason is passionate about differentiating the activities and lessons for his students. He incorporated this passion into his definition of blended learning. Jason stated in his interview,

> I think blended learning and personalized learning are two different things. When I think about Blended, I think about the choice of your path, timing and the choices

> the students get to make. With personalized I look at a combination of the need of the students and their particular personal interest in the content area. I think it's important for teachers to know the difference between blended learning and personalized learning.

Blended learning, the artful combination of computerized instruction (personalized for each student) with small group instruction, offers students something closer to tutoring than traditional lectures do (Vanderkam, 2013). Blended learning classrooms provide more individualization and differentiation so that students can fill in gaps with computerized instruction. Blended learning offers all students the opportunity to learn concepts from many different approaches that make acquiring information appropriate and comfortable. Personalized learning provides opportunities to engage in a manner relevant to learners' abilities and interests so they can achieve their full potential (U.S. Department of Education, 2005). Jason ensures that he does both, provides student choice and personalized content when designing his classroom experiences for his students. Jason stated in his written narrative,

> I devised my own math course utilizing various resources including the district's math program, but also many other resources. I based it around the standards, changing the instructional sequence away from the Math Expressions text, shortening the amount of time on some concepts, and greatly extending it on others. I focused on building conceptual understanding rather than explaining math concepts. The explaining would come from the children to each other.
>
> I set this up so students could work at their own pace, or work with others and so there were built in opportunities to extend, re-teach/additional practice, apply, and so forth.

The interpretive code that aligned to the theme of differentiated instruction was different activities and lessons for students also incorporating student choice. Jason uses the blended learning model to provide specific interventions to students either one-on-one or in a small group. He shared in his interview that,

> the blended model allows the teacher to provide content and interventions that are best for the specific learner, moving away from whole class activities. Once I figured out blended learning and got a certain competency for myself, I found that students were able to do a lot independently that freed me up to work with kids that needed additional support. It gave me time that was previously hard to find to work with individual students, I was able to help students that needed extra support but also those students that needed to go ahead with extensions.

Jason goes on to share in the interview that,

> the main success I've seen are the gains at both the low end and the high end in my students. Students are able to make a lot of progress when they're working together at their own pace. I have seen a real growth in student achievement at the bottom and at the top because of this differentiation.

Jason's experience with differentiating student learning has supported students from a diverse population. Jason identified that "the blended model allows the teacher to move in and out of multiple instructional models depending on what best for the leaners."

Professional learning. The second theme identified during the data collection analysis process was professional learning. The associated interpretive code to this them included professional learning in the creation of content and curriculum. Jason reflected on his experience with professional learning by sharing in his interview,

> there hasn't been a clear district support in some ways. The things I have spent a huge amount of time one may not be supported by the district later. The first year I spent so much of my time developing Blended learning reading and then a new curriculum was adopted that we had to use. So the time I spent on developing curriculum was no longer needed. I felt the rug was yanked out from under me with reading. The district's right hand didn't know what the left hand was doing. On one hand they were saying use the Blended format and on the other hand, they were saying use the prescribed material for every student. There is also a continuing stream of problems to solve with technology. Constantly building and enrolling and creating classes and passwords can kind of become a little frustrating sometimes.

Jason communicated the importance of having district support and having the need for a district vision during implementation. He shared, "the amount of time spent to then be

told to proceed in a different direction is frustrating and can lead to the failure of an initiative."

Comas-Quinn (2011) identified three reoccurring themes– technical issues, the lack of online tools to integrate course activities or assessments, and shortage of time as the main factors in some of the teachers' abilities to effectively integrate technologies into the curriculum. The researcher suggested an increased understanding of the issues facing teachers to develop more effective training programs (Comas-Quinn, 2011). These three themes support the identified theme that Jason has been facing in his practice of implementing a blended learning classroom environment.

A descriptive code that supports the interpretive code of professional learning in the creation of content and curriculum is the time it takes to create or find resources. Jason shared in the interview,

> the actual time it takes to come up with the ideas and the different approaches can be challenging. Creating your own lessons takes time. The amount of time is probably the biggest challenge working in a blended model. Another challenge is setting up time for collaboration amongst teachers working in a blended model. It would be great for teachers to get together and collaborate on setting up a lesson in a blended format to personalize learning for students.

Werth, Werth, and Kellerer (2013) reported on a study that focused on the impact of blended learning on high school teachers and students. One of the goals of this study was to provide insights for developing blended learning programs. Teachers who had implemented blended learning were asked to provide suggestions for future implementations of blended learning. The primary response involved preparing for the large amounts of time required for facilitation. Respondents also claimed that blended learning presents many initial difficulties; however, enduring through the struggles was "well worth the effort" (p. 19). Regarding lesson preparation, respondents suggested the

development of some lessons in advance, but teachers should plan to develop lessons as the year progresses. Respondents also suggested that taking blended learning courses would help with implementation ideas as well as collaborating with other blended learning teachers. This study supports Jason's experience when it comes to the amount of time it takes to develop lessons and the need for built in time for collaboration.

Case 3 – Dawn

Here is Dawn's written reflection on her experience teaching using the blended learning model of instruction:

I began using the blended learning model 5 years ago as one of eight pilot classrooms in the school district. I believe I was already demonstrating many of the components that are at the heart of personalized/blended learning and therefore chosen. I first began blending math, allowing students to work at their own pace and choose the way in which they received the information. I would offer a flipped classroom model with videos where students could access the information from home or in class (really anywhere) and then work on lessons. I found this freed up my time to work more closely with other students. As I became more comfortable and discovered "tricks" like cheat sheets for grading student work, I began to think about other subjects. I remember one day having an ah-ha moment in Science or Social studies when I just started blending my lesson, it just happened. By January of that first year I was pretty much blending everything but Reading, which seemed more challenging to me that year, plus it is my relative weakness in subject matter and resources available from the district.

The next year things really got exciting. I had been asked about the learning space that I had with 3 teacher desks/spaces and what student learning was happening there. I

was completely shocked when I could not answer why I was taking up ¼ of the learning space when I was only 1/30 of the classroom population! I got rid of A LOT of 'stuff' and received new furniture that was more conducive for collaboration. I also got 12 devices for my room. What I didn't realize is that starting the next year would be difficult. Coming of an amazing year with this blended experience, I jumped right in and started self pace and lots of choice etc. What I didn't do was teach the kids how to be independent learners and slowly work into the blended personalized model. It was an epic failure by mid September. I was reflecting with my colleagues and they reminded me that the previous year I started slow. I scrapped what I was doing and retaught independence, collaboration, and perseverance.

Fast-forward to the present and my teaching has transformed. I meet with parents before school starts and get to know their kiddo. I can then be an architect or engineer if you will for their learning path. I help mold students into independent, problem solvers who can persevere and advocate for their learning style. Personalized blended learning has made me a better educator because I put the students first. The blend of technology and one on one teacher attention keeps the students engaged and learning for the entirety of the school day. Often kids look up and exclaim; "where did the time go!" or better yet; "I don't want to go to recess I am having fun!"

Continued professional development and the drive to find the newest/coolest technology and strategies to engage my students will continue to enhance my abilities to blend the learning environment for my students, all the while personalizing their place, pace, and path of gaining valuable information to be college and career ready.

Dawn was one the first teachers to dive into personalized learning using the blending learning model of instruction in River Valley Public Schools. Dawn is what the school district considers an early adopter. An early adopter is a person who is one of the first to try a new initiative or practice. In this case, it refers to Dawn being one of the first to being implementing the blended learning model of instruction in the district under study. Dawn was one of the original eight to begin learning about and implementing the blended learning instructional model in her school district. She is a fifth grade teacher with about thirty students in her classroom and has been teaching about ten years. Dawn's school where she teaches has approximately five hundred fifty-two students, seventy-three of the students are considered White, four percent of the students are considered African-American, seven percent of the students are considered Hispanic, and fifteen percent are Other. Twenty-nine percent of the students are economically disadvantaged (State Department of Education, 2016). Her classroom has totally changed since the first day a couple of years ago when she began her journey teaching using a blended learning model of instruction. Dawn's classroom had traditional rows of desks and about a quarter of the room was being used as her teacher space. Fast-forward a few years and the classroom space has been transformed into a student learning space with lots of choice of the students. The classroom observations detailed that the teacher space no longer exists, as she removed her teacher desk. There are now five round tables at chair height and one round table down on the floor that students can sit at using pillows. She also has a tall table for students to stand at or use stools. The top of the tall table is a whiteboard for student collaboration. Around the room there are whiteboards hanging for student collaboration and workspace. Additional flexible furniture includes soft pillow

chairs that can be placed any where in the classroom for small group work. Dawn has on one wall a SMART projector. A SMART projector enables students to write on the wall space, record it, and digitally save it. Students have access to five laptops and five iPads in the classroom. Students also have the opportunity to bring their own devices to school, if they choose.

Relationships – The first theme developed through the analysis of her data was relationships with interpretive codes of student-teacher relationships and teacher-teacher relationships. There are certain times in Dawn's experience where she developed stronger relationships with her students and times in her experience when her relationships with other teacher colleagues were strained. In this study, relationships are defined as how teachers are connected with students and also their teacher colleagues. A study conducted by Howard (2002) examined African American elementary and secondary students' description of teaching practices and learning environments within urban contexts. The study identified three central teaching strategies: teachers who establish family, community, and home-like characteristics; teachers who establish culturally connected caring relationships with students; and the use of verbal communication and affirmation. All three had a positive effect on student effort, engagements in class content, and overall achievement. When the teacher focuses on the individual student, positive outcomes ensue. The relationships Dawn is creating are positively impacting students academically and socially. Dawn articulated this in her interview by sharing,

> In this learning environment, I feel like I can connect more with individual students and personalize learning for them. I can create a personalized path for each individual student. This allows each student to be successful at any level. This also allows students of various levels and all levels to be in the classroom limiting pull out and limiting time loss. This encourages the push in model and

> allows us to meet students where they are and focus on their individual needs. It's help each student grow.

Dawn continued to share that,

> I always like to say that blended learning or personalized learning there is not a formula for it. You can't just open up a book and say this is how you do it. Every year you're going to have 30 new kids with 30 personalities that learn in 30 different ways. The time you put in will develop meaningful relationships for our students. Everyone's style is different, every teaching style is different. Blended learning supports this.

Dawn expressed in the interview a challenge she encountered with relationships between her and her teaching colleagues,

> It was difficult with my colleagues when I was the only section in fifth grade that was using this model. I really needed someone I could collaborate with and there just wasn't anyone around. This would have freed up some time because we could have collaborated together and created lessons. Getting buying from others in your building is very important because then you'll have more support. That buy-in at your building is very important. It hasn't gotten me down but I've heard from other colleagues that it's really tough when you're the only one in the building.

Change is extremely difficult for many in the educational environment. Understanding how educators respond to change is crucial in orchestrating change efforts: "in a world of unrelenting and even repetitive change (Abrahamson, 2004), understanding how teachers experience and respond to educational change is essential if reform and improvement efforts are to be more successful and sustainable" (Hargreaves, 2005, p. 981).

Differentiated instruction - Differentiated instruction was another theme that resonated with Dawn's data. The descriptive codes that supported the interpretive code of differentiated instruction and the theme of differentiated instruction were student choice and providing different lessons and activities for students to engage them in the learning. Dawn mentioned a specific example of how she provided differentiation for a student outside of the classroom. She shared,

> I had a student one year that had to travel for 3 to 6 weeks of every quarter to the hospital for treatment. I told the parents that it's going to be so cool because we use a learning management system and their child would still be able to keep up with what was happening in the class. Their child was still engaged in the classroom and no longer had this lag in education when she was missing class.

Dawn shared another example of a way she differentiated learning for a student in the classroom during her interview,

> Last year I had a little guy that needed to move around the classroom more than your typical student. The blended learning environment allowed for this movement to occur throughout the day. This environment also allowed the student to show what he already knew and could move on to other learning opportunities. By providing the child choice in their learning they were more successful.

Dawn went on to explain how she has provided this differentiation by stating,

> I use a LMS to provided lots of choice. The content within this system help meet the needs of each individual student. It takes a lot of time, but I have found that what works for one student may not particularly work for another.

Dawn is providing personalized learning opportunities by addressing the time, place, path, and/or pace. Stahl (2002) clearly outlined the four dimensions of time, place, path, and pace. Time means that learning is no longer limited to a traditional school day or school calendar year. Place refers to learning that is no longer limited to the traditional classroom. Path can be defined as learning that is no longer limited to the face-to-face strategies used by the teacher. Pace is described as learning that is no longer limited to the pace of the entire class, but is individualized.

A specific example that was shared during the interview to support personalized learning is,

> I feel like I can connect more with individual students and personalized learning for them. I can create a personalized path for each individual student. This allows for each student to be successful at any level. This also allows students of various levels and all levels to be in the classroom limiting pull out and limiting time loss. This encourages the push in model and allows us to meet students where they are and focus on their individual needs. It's help each student grow.

Dawn differentiates instruction to meet the needs of her students. This differentiation and personalization has helped to enhance relationships between her and her students increasing student growth in their learning. In Dawn's narrative she states,

> I meet with parents before school starts and get to know their kiddo. I can then be an architect or engineer if you will for their learning path. I help mold students into independent, problem solvers who can persevere and advocate for their learning style. Personalized blended learning has made me a better educator because I put the students first. The blend of technology and one on one teacher attention keeps the students engaged and learning for the entirety of the school day.

The blended model of instruction in Dawn's classrooms has created an environment where she can build relationships, differentiate instruction, and ultimately have a positive impact on student achievement.

Case 4 – Tony

Tony shared the following in his narrative:

I have been teaching for 12 years, and the last three have incorporated "blending learning" into the one class that I repeat each day with three different groups. I am a sixth grade teacher at West Middle School in Lawrence, Kansas. I have found several positives and a few negatives in this modern way of teaching.

I have enjoyed teaching in this style, but there was initially a large volume of preparation work. To individualize my social studies class and allow students to work largely at there own pace, I had to covert the majority of what I had been teaching into text and/or video format onto Blackboard. This required an enormous number of hours of work. Because of this, I was very appreciative that the school district provided workdays at the district office with other peers who were embarking on the "blended learning" voyage. (It was disappointing when the following year it was decided that we needed to

be *taught* how to be blended learning teachers, and we essentially lost much of that coveted work time.)

There were many positives to this method of teaching that I discovered when I switched over to this format. The most standout discovery is that my students were ecstatic to have more freedom to move at their own pace through each unit. To help the group of students who would find the foundational readings difficult to do on their own, I designed units into "Ten Tasks," the first five of which included a partner to work with. I felt this was imperative to ensure students comprehended the foundational reading, but I've realized that between 20-40% of each class disliked having a reading partner, or to be more specific, they intensely disliked having some students as their partner. The standout positive of blended learning for myself was the realization that I had been holding a large group of my students back in regards to what they could do within a time frame. In designing each unit into ten tasks, I made the final half enrichment learning – videos, art projects, essays - that I never taught in previous years. The other component of blended learning that I also have liked was the use of Blackboard quizzes to handle individual formative assessments. Having computerized quizzes allowed my students to check their understanding of the content when they felt ready, and allowed me to exchange a summative test for a creative project for students to show what they learned. This was a huge step forward for my students and myself.

What blended learning work do I have yet ahead of me? I have two challenges ahead of me this fourth year of using it. One, I will (finally) implement blended learning into my double-block ELA class this year. I will not use Blackboard, but I will have a variety of small group work, weekly individual work expectations, and a blend of paper-

pencil and I-pad work. My other challenge will be to convert all of my Blackboard quizzes and organizational sources over to another format. This is a task I am dreading, but the school district will provide me with one year before Blackboard goes away, so it will be done.

Blended learning has provided me with new avenues to educate a new generation of Americans with a heightened value of the individual. Our hope is that this generation of students will more fully meet their potential.

As I walked into Tony's classroom it had a different feel than the elementary classrooms I had observed. Tony's classroom was more formal and felt similar to walking into a hospital type of environment. The flooring was tile and everything seemed to have its specific place with nothing out of order. The tables were perfectly spaced, the room was symmetrical and you could definitely tell where the front and back of the classroom were. This was a different experience from the elementary classrooms. In those rooms the tables felt more freely placed, there was soft furniture lying around, and there were posters and messages in student friendly language. The feel of the classroom is the complete opposite of the feeling I had when meeting with Tony over the years and during the interview process. Tony is very friendly, has a student first mind-set and has an artistic personality. His classroom set-up compared to his demeanor surprised me.

Tony is a sixth grade Language Arts and Social Studies teacher. In his classroom he has two round tables that sit up to four students, three kidney style tables (one in the center of the classroom, and two coming out from each corner at a diagonal. The kidney style tables each have a TV and computer sitting at the far end of them. There are two tall standing tables with a dry erase top that student use for collaboration. There is one

additional rectangle table and a whiteboard at the front of the classroom. In Tony's classroom, there are enough seats for twenty-six students. Students in middle school each have their own iPad to use both at school and at home. Tony's school has approximately six hundred sixty students. Sixty-eight percent of the students are considered White, eight percent of the students are considered African-American, eight percent of the students are considered Hispanic, and fifteen percent are Other. Thirty-five percent of the students are economically disadvantaged (State Department of Education, 2016).

Professional learning. The first theme discovered in the analysis of Tony's written narrative and interview data was professional learning. The interpretive codes of creation of content and curriculum derived this theme. It was apparent that Tony believed that professional learning was necessary and important for teachers teaching using the blended model of instruction. Tony mentioned numerous times about the time it takes to create content when personalizing instruction for students. During the interview Tony said,

> I don't enjoy the amount of time it takes to set-up a blended learning classroom initially. You have to have everything planned out so far in advance from the very first day that it takes a lot of time. This is a real challenge. Since I wanted more courses to be more self-paced, it takes a lot of work on the part of the teacher. You need to have weeks of work done and plan for this to occur. I think this would be difficulty for a new teacher if there were not professional learning supporting them.

Teachers will need support in their professional learning to enhance their current teaching practices (Christensen 2013; Clement 2007; Horn 2011, 2012; iNACOL, 2011; Staker, 2012). To support this connection among educators, professional development should be provided in a collaborative way that expands opportunities for teachers to use technology (Christensen 2013; Clement 2007; Horn 2011, 2012; iNACOL, 2011; Staker, 2012).

Professional learning must address not just content presented to teachers, but time to collaborate with teachers.

It was apparent that having time to create and develop lessons is more important to Tony then being taught how to blend. Tony shared the following in his narrative,

> To individualize my social studies class and allow students to work largely at there own pace, I had to covert the majority of what I had been teaching into text and/or video format onto Blackboard. This required an enormous number of hours of work. Because of this, I was very appreciative that the school district provided workdays at the district office with other peers who were embarking on the "blended learning" voyage. (It was disappointing when the following year it was decided that we needed to be *taught* how to be blended learning teachers, and we essentially lost much of that coveted work time.)

This comment Tony shared really resonated with me. At the time that this shift occurred, I was leading the professional learning sessions within the district under study. I made a shift from a full day of planning lessons and creating content to a half day of planning with colleagues and half day of professional learning around the components of blended learning. When providing professional learning opportunities, individual needs must be considered and addressed. Understanding the needs of teachers can only be addressed by listening to their stories and experiences. As an instructional leader, I must then make changes/enhance our practices based upon these stories and experiences. A one-size-fits-all model no longer works for teachers. A personalized professional learning opportunity for teachers would have identified the specific components missing from their knowledge base and supported their specific areas for growth and development.

Differentiated instruction. The second theme identified during the data collection and analysis process was differentiated instruction. The connected interpretive codes to this theme include student choice, student engagement, and providing different

lessons and activities for individual students. Tony's definition of the blended learning model supports the interpretive codes. Tony shared during his interview that,

> to me, I think blended learning is a system set up in my classroom so that kids are working more at their own pace and have more freedom in choosing their assignments. Some of the assignments may be more traditionally done with a paper and pencil and some are done suing technology. There is a strong connection between personalized learning and blended learning.

Tony's classroom set-up and expectations allows his students to have agency to set their own goals for learning, create a reflective process during their journey to attain those goals, and be flexible enough to take their learning outside the confines of the traditional classroom. Tony shared in his narrative that "students were ecstatic to have more freedom to move at their own pace through each unit."

Case 5 – Carolyn

The following is Carolyn's written narrative:

Blended Learning began as a district-wide initiative during the 2013-14 school. I had the opportunity to belong to the first cohort of teachers to implement this new initiative in the classroom. The possibilities were exciting given the traditional whole-class environment didn't always work well in a math classroom. Additionally, I was fairly new to teaching and had not established a classroom management that would be challenging to abandon.

Early in the adoption of the new classroom structure, there was a steep learning curve, both as a teacher, and for my students. Every new adventure had to be met with a positive attitude and the knowledge that a lesson may not go according to the plan and need to be re-visited another day using another method. The first systems we used were laborious to load and I found that just login on to the system took up a significant portion

of the class time. It became clear that using the electronic devices on a daily basis might be too inefficient. Additionally, if the electronic device did not "add value" to the lesson any more than another useful, albeit more traditional tool, than it really was not worth the effort to use it.

The first year pushed me as a teacher to look more holistically at a unit with the end goal in mind and work backward. Although teachers should really be doing this all the time, it is sometimes easy to find oneself in the day-to-day mindset. Pushing a lot of information out at once taxed my energy during the non-school hours, but freed me up during class time and allowed me to engage with students in one-on-one and small group interactions. This was an affect I had not anticipated and I found it to be wonderfully effective as a way to deliver content and connect on a personal level at the same time.

Lastly, the use of a blended learning format allowed me to determine what content could be delivered using the electronic mechanism and which content was better taught using a more traditional approach. Providing students with a way to access the material again and again also gave them a way to get caught up if absent, review if the first lesson didn't quite stick, and even allow their parents to view what they were doing at home. Having parents interact with the content at home deepened the respect for the craft of teaching. Parents so often do not realize the vast amount of scaffolding necessary to lay skill on top of skill.

Blended learning has been an initiative I have been proud to be a part of. I do hope that teachers consider taking this journey as the digital age is such a huge part of our students lives and should also influence our teaching as well. As with everything, teaching our students how to use the technology properly and to make the tools work for

them rather than become a distraction, is perhaps one of the biggest lessons that I continue to problem-solve.

Carolyn is a sixth grade math teacher and is considered an early adopter when it comes to the implementation of the blended learning model in the school district under study. I first began working with Carolyn when I was supporting math teachers and their instructional classroom practices. Over the past few years much of our discussions have been around how does this instructional model support the math classroom? Carolyn was always willing to try something "new" although she always made sure the "new" supported not just her students but specifically her students in a math classroom. After observing the previous Language Arts and Social Studies classroom, I was interested to see if this was how all middle school classrooms were set-up. I soon realized Carolyn's classroom was very similar to the elementary classrooms. She has five round tables, one kidney shaped table, two whiteboards, and a projector. Both days when I observed it was visible to me that she uses the projector and whiteboards continuously throughout the day to support students visually with the math concepts being taught. The room was carpeted and had a calm feeling to it. There were posters hanging up near the ceiling around the room with mathematicians' faces and a short biography about each person. Students in this school all have a personal iPad that can be used both at school and at home. The school where she teaches serves approximately six hundred ninety students. Seventy-two percent of the students are considered White, four percent of the students are considered African-American, seven percent of the students are considered Hispanic, and seventeen percent are Other. Twenty-two percent of the students are economically disadvantaged (State Department of Education, 2016).

Instructional format. The first identified theme in the written narrative and interview was instructional format. The interpretive codes of formatting lessons/activities and technology integration supported the theme of instructional format. Carolyn has been teaching using the blended model of instruction now for four years. Over the course that time, her instructional format has changed from lesson to lesson and year to year. The use of technology was an immediate element that Carolyn had to reflect upon. She shared in her narrative,

> Early in the adoption of the new classroom structure, there was a steep learning curve, both as a teacher, and for my students. Every new adventure had to be met with a positive attitude and the knowledge that a lesson may not go according to the plan and need to be re-visited another day using another method. The first systems we used were laborious to load and I found that just login on to the system took up a significant portion of the class time. It became clear that using the electronic devices on a daily basis might be too inefficient. Additionally, if the electronic device did not "add value" to the lesson any more than another useful, albeit more traditional tool, than it really was not worth the effort to use it.

The blended model of instruction allows for just this. If the use of technology enhances the activity or supports a student, use it. If not, a different model of instruction is fine. The whole concept is to use multiple forms of instruction to personalize instruction for students. Her experience is one that has been shared by other participants in this study. Initially everyone dove into using the technology and soon realized it is more than just integrating technology into their lessons.

Carolyn went on to share in her interview that,

> The first year pushed me as a teacher to look more holistically at a unit with the end goal in mind and work backward. Although teachers should really be doing this all the time, it is sometimes easy to find oneself in the day-to-day mindset. Pushing a lot of information out at once taxed my energy during the non-school hours, but freed me up during class time and allowed me to engage with students in one-on-one and small group interactions. This was an affect I had not anticipated and I found it to be wonderfully effective as a way to deliver content and connect on a personal level at the same time.

Carolyn explained in her interview that she determines and decides when to use technology by answering the question of "does the use of technology add value to the lesson or as a way to have students access activities or curriculum on their own timeline?" If the technology does not add value, she will use a different instructional approach.

Professional learning. Professional learning was another theme that resonated with Carolyn's data. The interpretive code of the creation of content and curriculum derived this theme. Professional development will vary on the initiatives being implemented and on the individual needs of the educators. Professional development is more than weekly meetings covering a "to do list," it is a time for growth and learning. Professional development as it relates to personalized learning, means the topics and sessions need to be personalized for the educators attending. Modeling personalized learning using the blended learning model for educators will transfer, connect, and support what is happening in the classroom (Christensen 2013; Clement 2007; Horn 2011, 2012; iNACOL, 2011; Staker, 2012). Carolyn shared in her interview in regards to professional learning that,

> As far as my particular area, the adoption of Common Core, we must teach the why and how not just the rote procedure. We must remember our first priority is to the math standards and the mathematical practices and then incorporate the instructional model of blended learning to support those standards and practices. Professional learning for math teachers must first focus on these priorities.

Carolyn also shared in her interview that a challenge she has faced has been management of assignments as it relates to integrating technology.

> Teachers need professional learning on which technology platform is best suitable for a math classroom? Math daily homework is challenging using the iPad or laptop and then turning in that work digitally. It is tough to write legibly enough

> to complete math homework. You cannot type in your math problems digitally because it would take forever. Taking a picture of your work is multiple steps, which makes it challenging. This can be frustrating to teachers. Professional learning should provide answers to these questions or teachers should have time to collaborate together in order to solve these issues.

As teachers seek instructional strategies to aid in both professional and student growth, the professional development opportunities must be targeted to their needs.

Case 6 – Kristen

Kristen shared the following in her narrative:

I began blending in 13-14, and my very first lesson was on the difference between equality and fairness. I wanted my students to understand that while I would do what I could to be fair, I could not treat them equally – no two of them were the same, so they all had different needs. I explained to them that treating them all the same is actually bad since it means hardly anyone would get what they needed when they needed it. That first year felt like winning the Super Bowl – I had the greatest bunch of kids to "learn" on and a wonderful support structure of other newly blended teachers.

As I have continued on my blended journey, I have folded in all kinds of new ideas and strategies. We added 1:1 iPads, started PBIS/CI3T, and now I am adopting Open Educational Resources for curriculum. All of these new items just fit with my blended class, and the ability to share info online with my students makes it much easier to get us all on the same page in terms of new rules and initiatives in our school. It also makes it easy for me to get feedback from my students. I utilize Google Forms to collect information from them on my teaching practices, our resources, and our big themes. I get back organized data that I can use to inform my teaching and planning for future classes and units.

My students enjoy blended learning as well. While not all students love learning from a video posted online, those videos do allow me time to work one on one and in small groups. The use of an LMS has freed me up so I'm not up front putting on a show 7 times a day. Instead, I'm talking with students and meeting their individual needs while all of that material is online, ready for kids to engage with it when they are. I build much deeper relationships with my students now that my classroom works this way, and better relationships results in better buy-in and increased learning.

In terms of enhancing my teaching, time spent collaborating with other like-minded teachers is critical. Sharing ideas, problem solving, and planning together makes us all better. Plus, we get a chance to practice what we preach! I love to share my ideas through technology and often will try to blend or flip presentations. I'm lucky – my current team is made up of other blenders and we take time once a week to collaborate and share what's going on in our rooms – off line and on.

Kristen is a seventh grade Language Arts teacher. Kristen is also one of the early adopters in the school district under study. I have supported Kristen in multiple facets in regards to implementing the blended model of instruction in her classroom. She and I over the years have discussed assignments, classroom management, grading, different technology components, and flexible classroom furniture. Kristen uses the blended learning model throughout her day supporting all students. Kristen's classroom is a space that students want to be in. It is a welcoming place for everyone. It is one of those classrooms that you can tell is truly a student space. The classroom signified Kristen's commitment to a student center environment. The classroom space is very unique. One side of her classroom is an extremely large glass garage door. The door opens up into an

additional large workspace. This literally allows her classroom to double in size when needed. There are three round tables and two tall standing tables with whiteboards on the top. The times I was observing, there were notes and messages that had been left on the whiteboards so students could continue working. She has two kidney shaped tables and two TV's with computers attached being used as a collaboration station. There is a sitting area with soft pillows and a couch for students to sit on. The furniture in the room is very flexible. Between my first classroom observation and my second observation, the furniture has been rearranged to must meet the needs of the students. Kristen also uses a projector so students can visually see different aspects of a lesson.

The school where she teaches serves approximately five hundred seventy-six students. Fifty-eight percent of the students are considered White, nine percent of the students are considered African-American, eleven percent of the students are considered Hispanic, and twenty-one percent are Other. Fifty-three percent of the students are economically disadvantaged (State Department of Education, 2016).

Differentiated instruction. The first theme identified in the analysis of Kristen's was differentiated instruction. Interpretive codes such as providing student choice in lessons and activities supported this theme. Kristen described her classroom during her interview "as a place where students can learn in a traditional face-to-face classroom environment with instruction provided via differentiation – often using technology." She went on to say, "students get a blend of teacher led and student led learning. It is a classroom where students can access materials without being in the same room as the teacher, if they choose."

I asked Kristen to share an example of how she personalizes instruction in her classroom during the interview. She shared,

> I will pre-assess students over the skills/concepts a unit encompasses. If students score well enough, they are able to skip over part of the unit and into the performance assessment. Students also make choices about their own learning – who to work with, what types of apps to technology to us (if any), even coming up with project topics themselves. Sometimes I provide a set of choices (like a bingo board or menu) and other times I leave it open ended for the students. I also work with small groups and one-on-one with students during class on skills they are currently struggling with. Writing conferences are another way I can personalize learning for each student – I then teach mini lessons to small groups based on what needs pop up in the conferences.

Kristen detailed in her narrative that technology,

> makes it easy for me to get feedback form my students. I utilize Google Forms to collect information form them on my teaching practices, our resources, and our big themes. I get back organized data that I can use to inform my teaching and planning for future lessons.

The way that Kristen is personalizing learning, it allows for the instruction to be as directed as needed based upon each individual student. Personalized learning provides opportunities to engage in a manner relevant to learners' abilities and interests so they can achieve their full potential (U.S. Department of Education, 2005). Kristen is also following the ideas of Horn and Staker (2015) who describe personalized learning as an approach that also implies that students can receive a one-on-one learning experience when they need it but can also partake in group activities and projects when that would be best for their learning.

Kristen shared that differentiation has helped with her struggling readers,

> being able to meet all students where they are in terms of reading level is crucial to developing them as readers. That's almost impossible if all I did as a classroom teacher was direct instruction. Being able to blend and work with struggling readers to help them improve their skills is amazing.

Personalizing learning and incorporating the blended learning instructional model has been shown to have greater growth in both reading and math achievement (Evergreen Education Group, 2015).

Relationships. A second theme that was present in Kristen's data was relationships. The creation of this theme was developed through the interpretive code of student-teacher relationships and teacher-teacher relationships. As I analyzed Kristen's data the theme of relationships appeared and throughout. According to Payne (2001), "relationships always begin as one individual to another. First and foremost in all relationships with students is the relationship between each teacher and student" (p. 111). The relationship between a teacher and a student, therefore, is the foundation upon which learning rests. According to Thayer-Bacon and Bacon (1996), "teachers who care about their students are remembered, effect change, stimulate growth, and are more likely to be successful at teaching their students" (p. 255). Within her narrative she shared,

> my students enjoy blended learning as well. While not all students love learning from a video posted online, those videos allow me to work one-on-one and in small groups. The use of an LMS has freed me up so I'm not up front putting on a show seven times a day. Instead, I'm talking with students and meeting their individual needs while all of that material is online, ready for kids to engage with it when they are ready. I build much deeper relationships with my students now that my classroom works this way, and better relationships result in better buy-in and increased learning.

Kristen shared during her interview that incorporating the blended learning model of instruction has helped build relationships, "I love how much better I get to know all my students with the blend model. Relationships are so important in teaching, and blended learning has enabled me to build better relationships with my kids."

Professional learning. Professional learning is the final theme identified in the analyzed data from Kristen's narrative and interview. The theme of professional learning

is supported by the interpretive code of the creation of content and curriculum. Kristen shared during her interview that implementing the blended learning model of instruction can be overwhelming.

> At times when I am creating my own content –have to make it, review it, post it, and have it ready for kids in a timely fashion, can be overwhelming. The students then burn through what took me weeks to put together in a matter of a few class periods! Having an opportunity to collaborate with others, share and learn from others would help feel less overwhelmed.

Within Kristen's narrative she said,

> In terms of enhancing my teaching, time spent collaborating with other like-minded teachers is critical. Sharing ideas, problem solving, and planning together makes us all better. Plus, we get a chance to practice what we preach! I love to share my ideas through technology and often will try to blend or flip presentations. I'm lucky – my current team is made up of other blenders and we take time once a week to collaborate and share what's going on in our rooms – off line and on.

Leaders should create a stimulating environment where teachers can engage in the professional learning process either in small groups or whole group while collaborating with others (Killion & Roy, 2009).

Case 7 – Charles

Charles shared the following in his written narrative:

When I first began to blend my classroom/lessons the biggest challenge was finding and compiling the multiple resources available to personalize the learning for my students. As I started to collect and organize my resources it helped me structure my lessons with "Big Ideas and themes." This allowed me to teach units at different paces for different students. Although I kept due dates for each unit, the assignments/lessons in the middle could be turned in a different times. This allowed my students to have the freedom to pace themselves and taught them time management and organization. This

structure also allowed me as a teacher to work more individually with my students. It allowed me to access each student and help them wherever they were at in the unit. I also implemented a project based assessment model for my classroom. My students seemed to enjoy this because it allowed them to choose how they would present the material to me and allowed them to pick a topic from each unit that interested them the most.

Throughout my years blending my classroom, I believe the project based assessment model is my biggest success. I really enjoy seeing what students can come up with and also challenging them to be creative with the way the present the material. Having technology, iPad and MacBook laptops, available in my class has also allowed the students and I more access to different resources and project platforms. As I continue to implement this model in my classroom it is a goal of mine to keep reflecting and talking with other teachers in my profession to gain new ideas to implement and try with my students.

Charles is a high school U.S. History and Government teacher. His classroom was a typical high school classroom with rows of desk and the teacher at the front of the room lecturing for the entire class period. He had traditional end of the unit or end of the semester tests that were based off the readings and the material from the lecture. Each student throughout the day received the same lecture and same assessment. A couple of years ago I met with Charles to begin discussing this new instructional model. Charles immediately jumped on board and began his journey implementing the blended learning model of instruction. Charles was one of the first high school teachers in the district under study to teach in a fully blended learning environment and the first teacher in his department. During my observations, I noticed Charles had five round tables, two tall

tables with eight stools, and one small half round table up against a wall with supplies on it. There were two traditional student desks up against one wall. There is no teacher desk or teacher space except the half round table with supplies on it. Charles does have access to SMARTboard and projector. The classroom is very small and cramped with very little room for students to move around. The classroom has tile flooring making it seem not as inviting as the other classrooms I observed. It reminded my of a traditional college classroom. Students in high school have access to their own personal laptop that can be used at school or at home. The school where Charles teaches serves approximately one thousand five hundred ninety-five students. Sixty-five percent of the students are considered White, seven percent of the students are considered African-American, nine percent of the students are considered Hispanic, and eighteen percent are Other. Forty-three percent of the students are economically disadvantaged (State Department of Education, 2016).

Differentiated instruction. The theme that surfaced first when analyzing of the interview and narrative data was differentiated instruction. The interpretive code of differentiate instruction supports this theme. Powell, Rabbitt, and Kennedy (2014) state that effective blended learning teachers have high expectations and commitment to achieving equitable outcomes. Teachers create rigorous but supportive environments in which students are held to high expectations academically and behaviorally. Teachers have a desire to move towards competency-based learning. By this, teachers recognize that not all students learn at the same pace and that mastery of knowledge/skills is a better measure of learning than time on task. Teachers also value all learners-including those with different skills, exceptionalities, and needs. In seeking to personalize their

instruction, teachers recognize that all students bring different strengths and needs to the table, including those with identified disabilities. In Charles' interview, he describes how his classroom environment is designed.

> In most of my units, I have gone to big ideas or themes and I have at least ten essential questions and objective questions for the students to answer. I try to gather as many resources as possible for students to use when answering those questions. Maybe students enjoy watching videos or reading articles or maybe they enjoy listening to someone lecture on that topic over a PowerPoint. I try to find out what kind of learner that student is. I then structure their learning around that if it's a note taking technique or a writing project or a creative type project. Or maybe it's watching a video. Simply put, it would be finding what a student enjoys and how did they learn that information and then finding the resource to make it easier or more interesting to them, rather than just making everyone listen to the same lecture and do the same thing. There are still opportunities for students to hear a lecture, but it may be in a small group or even individually.

As They (2008) stated, the typical approach to integrating technology into school is to just place computers in classrooms. This approach will allow traditional practices to continue to be used while just completing them on a computer. Charles shared in his interview his challenges with using technology and differentiating lessons. The challenge is getting students to do the work and explicitly teaching them how to use the resources to learn.

> Probably one of my biggest challenges would be when a student does not enjoy learning in a blended format. Students sometimes struggle with the structure of a lesson in this model. Some kids really like it, other kids really don't like it, and there is an in between. So I have to encourage kids to give this new model a try. Usually the roadblock is that it is new and they were never taught in this fashion. Once they see it is personalized to their needs, they enjoy this format. Another challenge whens structuring a class that is more self pasted, is when students have more freedom and they don't do a darn thing, so they get behind and then their grade goes down. That's with any class though. As the teacher, I must check-in regularly with each student to support him or her as they complete the lessons. Also by differentiating lessons I have to know and understand the best way to teach students how to use the resources. I can't just hand them a computer and say go. I need to teach them the purpose of the resource and how to use it as a research tool.

In Charles' written narrative he shares that his biggest success has been in the area of differentiated assessment.

> The blended structure allowed me as the teacher to work more individually with my students. It allowed me to assess each student and help him or her wherever they were at in the unit. I also implemented a project based assessment model for my classroom. My students seemed to enjoy this because it allowed them to choose how they would present the material to me and allowed them to pick a topic form each unit that interested them the most. Throughout my years of blending my classroom, I believe the project based assessment model is my biggest success. I really enjoy seeing what students can come up with and also challenging them to be creative with the way they present the material.

Charles shared in the interview that the blended learning model allowed time for him to get to know the best way a student learns.

> It helps me get to know the students better and understand whey they are learning the way they are and why they choose to learn the way that they do. It allows me to understand through conversations how to personalize and individualize the material for them.

Case 8 – Andrew

Andrew shared the following in his narrative:

I am a high school science teacher and have been involved with blended learning for the last five or so years. I approached blended learning after feeling a need for a change. I was doing quite a bit of group work already (labs, projects) but didn't feel that the information transfer (note-taking) was 'working' for the students or me. I would lecture for 45 minutes and students would write down what I was saying. I don't think I was enjoying giving the notes and I don't think the students really enjoyed taking them. I wanted to find a method that would allow a different way of approaching the notes - one that one was more student-centered, more technologic, and one that would put 'getting' the information as their responsibility.

For me, blended teaching has allowed me to keep all of the great student work I was doing (group projects, lab activities), and add different methods for students to get the notes (instead of lecture). Students can watch videos over the material, read websites, look at pictures, etc. And my role has changed from the giver of the notes to more of a facilitator. For me, blended learning, in my classroom, is using technology to assist in giving students other avenues to get the 'information' of the class. It is the use of web pages, embedded movies, written information, etc. that student's access.

None of this could have happened without the intersection of computers and the web (technology to make blended work). Educational content on the web (i.e. YouTube videos) has exploded giving teachers many more choices for 'information.' Teachers, too, can find many more quality websites and other tools to help them.

There is almost an unlimited way of setting up a blended classroom. Here is the model I currently favor (students are given a 'science' notebook for their notes and lab experiments at the beginning of the year). In my model, I do a more guided blended approach. All students are doing the same activity on the same day.

(1) Start class with a question student answer in their notebook.

(2) Short discussion of past / current material (5-15 min). I typically use a doc camera and my notebook. (What did we learn yesterday? How does this new stuff fit into what we already know?)

(3) At this point, we would do several different things depending upon the day:

a. Students might group up to work on a physical project (making a fan car for example).

b. Students might work together looking at a Blackboard assignment (maybe some reading I have put together, a embedded video with questions, or a web site to analyze.)

c. Students might work together in small groups on a lab activity

d. Or students might work together in small groups on homework.

(4) Before class ends, we would come back to together to debrief about what we learned, etc.

I like a more guided approach to the day. In the two years I taught biology, it was less guided. I had written almost everything up into blackboard and then just had a brief opening and then turned students 'loose' on the blackboard assignment. Students could work at their own pace. I had some trouble with this format as some students got behind. Also, there were groups of students working on the next unit while other students were several units behind. This made it hard to have all of the equipment we needed ready to go and is more difficult logistically.

I like the guided approach I am currently using a bit better. All students are working on the same activity – it is easier to have labs and equipment ready. Plus, I like engaging all the students at the beginning.

Here are what I consider the benefits of a blended classroom:

(1) Students can do lots of their work in small groups.

(2) Students can work through some of the assignments at their own pace.

(3) Some differentiated assignments

(4) Use of many different formats to learn the material: reading and writing, web pages, audio, video, lab activities

(5) more student-centered and student-responsibility involved

Here are what I had some issues with (at least in my classes)

(1) Some students couldn't or wouldn't keep up with the material and got really behind.

(2) Some difficulty with excessive talking in small groups (too much talk and not getting stuff done).

(3) Round tables not always the best. Some groups not very productive

I did enjoy using blackboard and writing up lesson plans on blackboard. It was easy to embed movies and to link in web pages, etc. I will be trying Google classroom this year. Additionally, I did request to move the large circular tables out and now have individual student desks.

Students do have to have the maturity and focus to do well in a blended classroom, especially if it is less guided. Students have to focus on the assignment and be able to work more independent from the teacher. I like this approach but had some issues with students not working very hard or not being able to stay focused on the assignments.

Andrew is a high school Science teacher and has been involved in blended learning over the past few years. Andrew classroom is very student centered. It is a large science classroom with a large teacher workstation and display station in the front of the classroom. Around the perimeter of the classroom are student workstations with water and gas access. Andrew's classroom furniture has changed over the years. When he first started using this model of instruction, he had traditional science tables and desks for students to sit at. As the teacher, it was a lot of direct instruction through the lecture format. Students took notes and then worked through experiments as a whole group.

Andrew's classroom was the only classroom that had change furniture between observations. During my first observation, Andrew had three small round tables and five large round tables. He had two kidney shaped tables with a TV and computer placed on them so students could collaborate. Students had access to ten devices (laptops). The classroom was very inviting. There were numerous places around the classroom with soft furniture (pillows, couch) for students to spend time relaxing.

When I returned a couple of weeks later for my second classroom observation, the classroom environment was very different. It seemed more structured. The round tables had been removed and the 28 desks had replaced them. The desks were in rows and no longer were students able to collaborate in groups. There was still one kidney shaped table but the TV and computers had been removed. I noticed on one of the walls the was a large hanging pocket chart for cell phones to be placed while student were in the classroom and there was a large sign hanging at the front of the classroom sharing the building behavior expectations. There was no longer any soft furniture and no places for students to work in a relaxed environment. Students now had access to their own personal laptop so there was no sharing of devices. Andrew did have am Apple TV and SMARTboard at the front of the classroom and both seemed to be being used. The classroom had gone from a student-centered space back to a traditional classroom set-up. When I asked Andrew about this switch during his interview, he shared that he is still using the blended model of instruction but after hearing from the student voices this year, the students felt they could learn better if they were sitting alone at their own desk. I also asked about the removal of the TV and computer. I also asked about the addition of the hanging pocket chart for cell phones. Andrew shared that since students now have their

own personal devices, neither the TV, computer, nor personal cellphones are needed during the class period. Andrew decided to give it a try for this semester. He wanted to see if it helped increase student engagement and positively impact achievement. Andrew teaches in the same high school as case number seven so the demographics and the economically disadvantaged percentages are the same as stated previously.

Differentiated instruction. Differentiated instruction is the theme that resonated throughout the narrative and interview. The interpretive code of differentiate instruction supports this theme. In Andrew's narrative he shared why he began implementing the blended learning instructional approach with his students.

> I approached blended learning after feeling a need for a change. I was doing quite a bit of group work already (labs, projects) but didn't feel that the information transfer (note-taking) was 'working' for the students or me. I would lecture for 45 minutes and students would write down what I was saying. I don't think I was enjoying giving the notes and I don't think the students really enjoyed taking them. I wanted to find a method that would allow a different way of approaching the notes - one that one was more student-centered, more technologic, and one that would put 'getting' the information as their responsibility.
>
> For me, blended teaching has allowed me to keep all of the great student work I was doing (group projects, lab activities), and add different methods for students to get the notes (instead of lecture). Students can watch videos over the material, read websites, look at pictures, etc. And my role has changed from the giver of the notes to more of a facilitator. For me, blended learning, in my classroom, is using technology to assist in giving students other avenues to get the 'information' of the class. It is the use of web pages, embedded movies, written information, etc. that student's access.

Andrew addressed how he sees differentiation related to blended learning by sharing his definition of blended learning during the interview.

> In a way, my definition would be taking a lot of different ways of learning content and trying to give kids voice in the way that they're learning material. There may be some pacing issues; kids could go at their own pace. The teacher can provide lots of different resources for them to access. You can embed movies with questions. You can have kids investigate website pages. You can add pictures. You can create you own web page. To me it intersects with a lot of group work.

> Kids discussing questions and concepts with each other. That's what I think is blended. Where kids see different modalities to learn. It doesn't mean every day you're using everything, but you have a choice. You might have them look at a lot of different things and a lot of different concepts and they find the way that works best for them. Maybe the website and online textbook, or a regular textbook and use that material. It is using a lot of different modalities.

Andrew's definition supports a study completed by the Evergreen Education Group (2015) where in the study, teachers developed lesson plans that detailed types of small group differentiated instruction, collaborative work, and practice. The study revealed that classrooms that used this type of instruction and differentiation for students increased student achievement in district growth targets.

A challenge Andrew expressed in his interview is that,

> there's been a resistance from some students. Some students want to be spoon-fed. Some students just want to be told what they need to do to pass the class and are not really interested in learning. Or maybe they're not at the point of having the maturity of choosing their own path to learn. Maybe they don't have the independence, or the curiosity of a concept to learn.

Within Andrew's narrative he addressed how he is tackling this concern through the model he is currently using in his classroom.

> There are almost an unlimited way of setting up a blended classroom. Here is the model I currently favor (students are given a 'science' notebook for their notes and lab experiments at the beginning of the year). In my model, I do a more guided blended approach. All students are doing the same activity on the same day.
>
> (1) Start class with a question student answer in their notebook.
> (2) Short discussion of past / current material (5-15 min). I typically use a doc camera and my notebook. (What did we learn yesterday? How does this new stuff fit into what we already know?)
> (3) At this point, we would do several different things depending upon the day:
>
> a. Students might group up to work on a physical project (making a fan car for example).
> b. Students might work together looking at a Blackboard assignment (maybe some reading I have put together, a embedded video with questions, or a web site to analyze.)
> c. Students might work together in small groups on a lab activity

d. Or students might work together in small groups on homework.

(4) Before class ends, we would come back to together to debrief about what we learned, etc.

> I like a more guided approach to the day. In the two years I taught biology, it was less guided. I had written almost everything up into blackboard and then just had a brief opening and then turned students 'loose' on the blackboard assignment. Students could work at their own pace. I had some trouble with this format as some students got behind. Also, there were groups of students working on the next unit while other students were several units behind. This made it hard to have all of the equipment we needed ready to go and is more difficult logistically.
>
> I like the guided approach I am currently using a bit better. All students are working on the same activity – it is easier to have labs and equipment ready. Plus, I like engaging all the students at the beginning.

What I have learned over the years of helping teachers implement the instructional strategy of blended learning is that there is no specific formula. That is a main benefit to the instructional strategy. It can be changed to meet the needs of both the teacher and the students. Andrew has found a model and format that works for him this year, but I am sure he will make changes to it next year based upon his new students. Andrew implied this notion in his interview by saying,

> every classroom is different and every teacher does it a little bit different. There's just a lot of different ways that this model can be used so kids can feel successful. It might look a bit different in math or in social studies, but that is the benefit of teaching using the blended learning instructional model.

Summary

The stories of Sally, Jason, Dawn, Tony, Carolyn, Kristen, Charles, and Andrew revealed their experiences with blended learning. As I interacted with the participants, I was amazed at the power of blended learning for building relationships with students. This approach allowed them to have the time for interactions with all learners. Teachers expressed how blended learning supported all students, but were fairly silent when sharing about culturally diverse students. Two teachers shared how their relationships

with students supported the use of culturally relevant teaching. Charles shared during his interview,

> the structure of blended learning allowed me as a teacher to work more individually with my students. It allowed me to access each student and help them wherever they are at in the lesson. Since I have a deeper level of knowledge about the student, I am able to provide choices in the units based upon their cultural diversity. I am able to provide materials that the students can see themselves in and relate to.

Kristen teaches in one of our most diverse buildings in River Valley Public Schools. She shared during her interview that,

> when I would only use direct instruction it was almost impossible to build relationships. Blended learning allows me to work with struggling readers to help them improve their skills. I am able to use literature that is relevant to the student since I am personalizing the learning.

This year a school board goal of River Valley Public Schools is aimed toward supporting teachers in developing a deeper level of knowledge and understanding around the concept of culturally relevant teaching. I anticipate future dialogue and discourse amongst blended learning teachers on how this instructional strategy supports this board goal. Ultimately I can see richer relationships being built between students and teachers with this additional level of commitment.

Table 1 includes the representation of the interpretive codes that led to the development of the themes from their interview. Table 2 includes the representation of the interpretive codes that led to the development of the themes from the written narrative. Table 3 delineates the data from the classroom observations. The interpretive codes required at least five occurrences but no more than nine to be considered a moderate presence in the written narrative and individual interview. Interpretive codes of more than ten were considered strong in presence.

Table 1
Within-Case Analysis

Interviews	Sally	Jason	Dawn	Tony	Carolyn	Kristen	Charles	Andrew
Theme: Instructional Format Interpretive Codes: Format of lessons and activities along with technology integration	-	-	-	-	-	M	-	-
Theme: Differentiation Interpretive Code: Differentiated instruction through student choice	M	S	S	-	-	M	S	S
Theme: Data Driven Instruction Interpretive Code: Data collection to personalize instruction/student engagement	-	-	-	-	-	-	-	-
Theme: Relationships Interpretive Code: Student/teacher, teacher/teacher	-	-	-	-	-	M	M	-
Theme: Professional Learning for Teachers Interpretive Code: Professional learning for creating content	M	M	-	M	-	S	S	S

Note: S = Strong Presence of (10 or more occurrences)
M = Moderate Presence (at least 5 but nor more than 9)

Table 2
Within-Case Analysis

Narrative	Sally	Jason	Dawn	Tony	Carolyn	Kristen	Charles	Andrew
Theme: Instructional Format Interpretive Codes: Format of lessons and activities along with technology integration	M	-	-	-	M	-	-	S
Theme: Differentiation Interpretive Code: Differentiated instruction through student choice	M	S	S	S	-	-	M	S
Theme: Data Driven Instruction Interpretive Code: Data collection to personalize instruction/student engagement	-	-	-	-	-	-	-	-
Theme: Relationships Interpretive Code: Student/teacher, teacher/teacher	-	-	M	-	-	S	M	-
Theme: Professional Learning for Teachers Interpretive Code: Professional learning for creating content	M	S	-	S	M	S	-	S

Note: S = Strong Presence of (10 or more occurrences)
M = Moderate Presence (at least 5 but nor more than 9)

Table 3
Classroom Observations

Sally	Observation #1	Observation #2
Furniture	Kidney table Nine trapezoid tables (chair height) Four trapezoid tables (sitting on floor height) Alphabet on wall SMART Projector Wobble seats four Whiteboard Classroom student count twenty	Same
Technology	Ten devices One collaboration station	Same

Jason		
Furniture	Eleven trapezoid tables Classroom student count eighteen SMART Projector Two Whiteboard Classroom code of conduct hanging on wall Steps to solving a problem hanging on the wall Avervision Kidney table	Same
Technology	Ten devices One collaboration station	Same

Dawn

Furniture	Five round tables One sitting table One standing table Two Whiteboard SMART Projector Soft pillow chairs Thirty students	Same
Technology	Ten devices One collaboration station	Same

Tony

Furniture	Two round Three kidney style Two standing table One rectangle table Twenty-six students One whiteboard Tile floors	Same
Technology	All student have an iPad Two collaboration stations	Same

Carolyn

Furniture	Five round tables One kidney style Two whiteboards Carpet on the floor Twenty students Projector	Same
Technology	All student have an iPad	Same

Kristen

Furniture	Two standing tables whiteboard Three round One sitting round Two kidney Couch Garage door SMARTboard Projector	Same
Technology	All student have an iPad Two collaboration stations	Same

Charles

Furniture	Five round tables Two student desk Two high top table Eight stools One half round table No teacher desk SMARTboard Projector	Same
Technology	All student have a laptop	Same

Andrew

Furniture	Three small round tables Five large round tables Two collaboration stations Two kidney shaped tables	Twenty-eight desks Kidney shape table Lab tables (spots for twelve) Front demonstration table Apple TV Projector SMART Board Hanging pocket chart for cell phones to be placed Building expectations chart
Technology	Two collaboration stations Ten devices	All student have a laptop

The within case analysis, reflected in the three tables, assisted in the development of cross case analysis for answering the research questions; the focus of the final section.

Answering the Research Questions: Cross Case Analysis

Within this section, I report the findings from the cross-case analysis and the answers to the research questions. The cross-case analysis allowed me to exemplify the themes moderately or strongly represented in each of the two data sources. I describe the findings of this study in relation to the research questions that guided my inquiry. The answering of the sub-questions assisted in answering the central question: What do teachers describe as the knowledge and skills they need to teach in a blended learning classroom?

Through the analyzing of the data, each one of the themes were scrutinized and examined in order to ensure validity and reliability along with accuracy in reporting of the themes. As I analyzed the individual interview data along with the narrative writing, I developed a clear picture of how the participants perceived their experiences teaching in a blended learning classroom. Upon completing the process of coding the narrative writings and the individual interviews, there were five themes identified in the data. As previously discussed, these five themes included *instructional format, differentiated instruction, data driven instruction, relationships and professional learning*.

In the following section, I answered each one of the sub questions for this study. I conclude with a discussion centered on the central question as the data embedded within the sub questions supported answering the central question.

Table 4
Cross Case Analysis

	Sally	Jason	Dawn	Tony	Carolyn	Kristen	Charles	Andrew
Interview								
Instructional Format	x				x			x
Differentiated Instruction		x	x	X			x	x
Data Driven Instruction								
Relationships			x				x	
Professional Learning	x	x			x	x		
Narrative								
Instructional Format						x		
Differentiated Instruction	x					x	x	x
Data Driven Instruction								
Relationships						x	x	
Professional Learning	x	x		X		x	x	

What themes are apparent in the stories that teachers tell about from their experiences in a blended learning classroom?

The themes of differentiated instruction, relationships, and professional learning were apparent across each of the stories shared by the participants in the study. Within each of the participant stories, they shared that differentiation of the lessons and activities was key to implementing the model of blended learning. There was an absence in most of the interview responses and narrative reflections on using culturally relevant curriculum as a means to support differentiated instruction. Participants are meeting student-centered learning needs by focusing on the individual needs of each student instead of a one-size-fits-all approach. Participants also shared that this becomes a challenge with the amount of time it takes to find and create resources to provide differentiation of lessons and

activities for each student. Sally shared "it can become overwhelming at time when I am creating my own content." Other participants shared this same feeling of being overwhelmed. Participants shared that because a student has more choice on the way they best learn the material has lead to increased student engagement. The notion of utilizing technology allows for increased student engagement so that teacher can pull small groups, teach mini lessons, re-teach concepts to single students, and meet student pursuing extension opportunities resonated in each of the participants stories.

Since students are working on tasks specifically designed for them, it has allowed teachers to build relationships with individual students. As reported by Kristen,

> as a Language Arts teacher, I always wanted to conference with each student one-on-one, however I could never make that happen. Now that I started using the blended learning model, I am able to conference each student and get to know them better. I am then able to support them with their unique learn needs to increase academic achievement.

Enhanced student relationships were something that I did not expect to hear as often as I did during the interview and written narrative. In each of the settings elementary, middle, and high school, the opportunity to build relationships with students was a key factor in implementing the blended learning model of instruction. Teachers teaching in the blended environment were able to integrate culturally relevant curriculum into their instruction based upon these relationships. Dawn shared a story about the relationship she was able to build with a child who was receiving treatment and was absent from the classroom for weeks at a time. Sally shared her ability to provide specific individual support for a student to help them read. Both stories exemplified the power of the blended learning model. Throughout each interview and narrative writing, building student relationships

was a theme that was apparent. This theme was so apparent that it has led me to believe that it is a key benefit to using the blended model of instruction.

The need for professional learning was a theme that appeared throughout each of the stories shared. Professional learning ranged from needing specific learning options around the best approaches to use in the classroom to the need for opportunities to meet with other blended learning teachers. Multiple teachers shared that being able to observe other classrooms would help them in with implementing this model of instruction. Others shared that having time to collaborate on lessons and share lessons would positively impact their teaching. Charles stated that he feels teachers need to be taught the best way to incorporate technology in the classroom and Carolyn added that just because you have access to technology does not mean it needs to be used unless it enhances the lesson or activity. Carolyn was adamant that there is a time and a place when technology enhances the topic that students are learning and teachers need to have a deeper level of understanding on when this time and place occur.

What differences do teachers describe in teaching between a traditional classroom and a blended learning classroom?

The main difference that each of the participants described is having the time to provide individualized or personalized instruction to students. Andrew, a high school science teacher shared, "blended learning has taken me away from being the center of attention to now being a facilitator of learning." Dawn shared that,

> blended learning has allowed her to multiply herself by ten since she is able to Incorporate technology. Students know longer have to wait for her to teach the lesson or wait for others to grasp the concept; students are able to move at their own pace.

Jason communicated that when he was teaching in a traditional classroom he felt more tied to textbook. While implementing the instructional strategy of blended learning, he has been able to devise his own math course utilizing various resources.

> I based the new math course around the standards, changing the instructional sequence away from the text, shortening the amount of time on some concepts and greatly extending it on others. I focused on building conceptual understanding rather than explaining math concepts. The explaining would come form the children to each other. I set this up so students could work at their own pace, or work with others and so there were built in opportunities to extend, re-teach/additional practice, apply, and so forth.

Each participant shared that the blended model of instruction allowed him or her to still do some of the same traditional methods of teaching. The blended model of instruction puts an emphasis on teaching in a way that best supports each individual student at a given time. The model also supports teachers gaining a deeper level of knowledge in the content standards in order to provide this personalized level of instruction.

What are the personal barriers teachers faced when they began teaching in a blended learning classroom?

The personal barriers that the participants shared ranged from barriers with creating and finding resources, to no longer being the center of attention, to challenges with other colleagues for trying something new in their classroom. A barrier that Jason described having was turning over the control of learning to his students. In his traditional classroom space, students all learned from him. He presented the material to the students, he said how they would be assessed, and he said when the assessment was going to occur. Using the blended model was quite the transition for him. Students now had a choice in each of those components. Jason had to learn to support his students in a

different way. However, Jason shared that this has now been his biggest success, "I've seen students show academic growth at both the high and low end. Students are making a lot of progress."

Dawn shared her personal barriers came with not having a colleague that she was able to collaborate with. In her building, she was the only one implementing the blended learning model. This created a few barriers and challenges because she felt like an outcast. She was approaching teaching in a different way, and felt she could not share her successes or her failures with anyone else. If she had a colleague or partner to process through things with, she said it would have been a bit easier.

Kristen also shared a similar barrier she encountered. She received some negative feedback for peers when she moved into a blended model of teaching. Some coworkers thought she was just replacing herself with a device and others did not agree with her flexible due dates. This negative experience led to the barrier of doing things by herself and not even trying to reach out to others. She felt that she isolated herself in the first few years instead of confronting and challenging the status quo with her teaching colleagues.

Carolyn a math teacher shared her barrier of being open to a new way of teaching math. In the math classroom, she was the keeper of knowledge. She would show examples on the board; students would then practice those same kinds of problems. In the blended model, students might be at a different pace or solving problems in different way or even taking a test at a different time. Carolyn admitted that this is still a barrier for her. She is reluctant to give up that control for fear the students will fail. Carolyn releases a little control at different times but for the most part her classroom is more traditional.

"I miss storytelling," shared Tony when asked about his barriers when he began teaching in the blended model.

> My barrier was what I put on myself. I enjoyed storytelling and I enjoyed whole group teaching. I have relinquished this control and what I enjoyed because I saw the positive academic growth in my students and the excitement they had when they were involved. In the past, I was mainly the one involved and my students were not learning. I decided I couldn't let my own barrier be the barrier to each child succeeding.

Each of the participants had their own form of a barrier when they began teaching in the blended model. Some were barriers they placed on themselves and others had barriers placed upon them. In every case however, the barrier was overcome because of the positive growth the teachers were seeing in their students thanks to implementing the blended model of instruction. Every participant concluded they would never go back to the traditional method of teaching they had done in the past now that they have experience teaching in a blended model.

Summary

The purpose of this heuristic narratological case study was to develop a thick, rich description of what teachers describe as the knowledge and skills they need to teach in a blended learning classroom. In this chapter, I reviewed the data collection methods and the qualitative findings of the study. Semi-structured interviews were conducted along with a narrative writing with eight classroom teachers. The data from both the interview and narrative writing were analyzed using the progression of inquiry involving the application of the six phases offered by Moustakas (1990) as the main lens for data analysis, which include "initial engagement, immersion, incubation, illumination, explication, and culmination of the research in a creative synthesis" (p. 27). This revealed

five emergent themes: *instructional format, differentiated instruction, data driven instruction, relationships, and professional learning*.

Throughout this study, I have found it fascinating how reflective the teachers have been about their experiences. It was very evident that the teachers have experienced and seen a positive outcome in their students' academic growth from their implementation of the blended learning model of instruction. The findings revealed the importance of the relationships that can be built with individual students while teaching in a blended learning environment. Collaboration and professional learning are additional critical elements that participants discussed as needed to continue to grow as teachers teaching in a blended learning classroom environment.

In Chapter 6, reflections related to the findings are provided. Additionally, implications of the study's findings and recommendations for future studies are shared.

CHAPTER 6

REFLECTIONS, RECOMMENDATIONS, AND CONCLUSIONS

The purpose of this narratological heuristic case study was to explore the central question and sub questions to identify what teachers describe as the knowledge and skills they need to teach in a blended learning classroom. In this chapter, I reflect on the findings, offer recommendations, and provide concluding remarks that include a discussion of future research. Throughout this process, my understanding of how teachers perceived their experiences as teachers in a blended learning classroom environment was strengthened. I was able to deepen my understanding what teachers need to be successful while teaching using the blended learning model of instruction.

Moustakas (1990) suggested, "in heuristic methodology one seeks to obtain qualitative deceptions that are at the heart and depths of a person's experience-depictions of situations, events, conversations, relationships, feelings, thoughts, values and beliefs" (p.28). The qualitative deceptions provide the reader with potentially new knowledge centered on blended learning. The descriptions of the themes throughout this study provide clear explanations for how participants perceived their experiences teaching in a blended learning classroom environment.

The following research questions framed the study:

1) What themes are apparent in the stories that teachers tell about from their experiences in a blended learning classroom?
2) What differences do teachers describe in teaching between a traditional classroom and a blended learning classroom?

3) What are the personal barriers teachers faced when they began teaching in a blended learning classroom?

As I sought to answer the guiding questions of this study, I drew upon three data sources. These included a semi-structured interview, a written narrative, and two classroom observations. The study's participants were selected from one specific school district where I am an instructional leader.

Based upon the data analysis procedure, the findings from the semi-structured interviews and the written narratives yielded five themes. These themes included: *instructional format, differentiated instruction, data driven instruction, relationships, and professional learning.* The findings revealed the importance of these themes and their relationship to the knowledge and skills teachers need to teach in the blended learning environment. However, teachers were often silent about the needs of diverse learners.

Reflections on the Findings

Heuristic inquiry as the theoretical tradition for this study supported me as the researcher to become fully engaged with the research topic and utilize my own experience in the process. Heuristic inquiry does not exclude the researcher from the study; rather, it incorporates the researcher's experience with the experience of the participants. As I reflected on my experience with blended learning and supporting teachers in their professional learning on the concept of blended learning I became immersed in the questions that guided my study. The responses shared by the participants in their narrative and interview resonated with me. The participants' responses added value to what I was doing to support them but also helped me question additional ways that I could support them and all blended learning teachers in the future. Throughout the

analysis of the data, I reflected upon each of the themes and will continue to reflect on this data and my own experiences to guide next steps for River Valley Public Schools. Throughout the study, it was evident that teachers who use the blended learning approach felt they had a positive impact on students.

The themes of instructional format, differentiated instruction, and data driven instruction were ones I anticipated being shared by the participants. My experience has focused on supporting teachers with the instructional format of blended learning using data to drive differentiated instruction. Cultural teaching pedagogy should be included in conversations related to differentiated instruction. In order to meet the needs of all students including culturally diverse students, students need to be engaged with relevant curriculum. The curriculum needs to be personalized to the cultural experiences of the students.

Through the interviews and written narrative, teachers also revealed that integrating technology engaged students and increased their level of learning. In their opinions, this approach allowed for teaching to be individualized, student-centered, and provided timely feedback to students. Educators must work towards implementing technology to transform the classroom from a teacher-centered to a student-centered learning environment. Technology serves as a useful tool to personalize learning and prepare students for their future. For technology or blended learning to be successful, educators must plan, design, and create together to reduce isolationism and for change to endure.

Additionally, I expected the theme of professional learning; however, the details were shared in a different light than what I anticipated. In my experience, professional

learning was structured around the five elements of personalized learning: learner profiles, student agency, flexible learning environments, individual mastery, and personal learning paths. These elements were shared in one form or another by the participants, yet participants revealed several additional challenges. The most relevant challenge is the need to establish a time for teachers to share resources amongst each other and collaborate with each other to create additional content.

The theme of relationships was one I did not expect to see as strongly in the data. Building strong relationships with students was a key element of success shared by all participants using the blended model of instruction. Participants use the knowledge gained in these relationships to differentiate instruction to support the learners in River Valley Public School. However, participants were relatively silent when sharing if this differentiation was based upon the needs of culturally diverse learners.

Based on my reflections on the data, participates can benefit from a deeper level of knowledge about the cultural factors and cultural beliefs that have been created through the lived experiences of their students (Vygotsky, 1998). The blended learning model supports students and teachers confronting diverse problems that are relevant and have interest to them and allows for personalization that can focus on confronting this challenge. Culturally relevant pedagogy increases student performance because it empowers students intellectually, socially, emotionally, and politically by utilizing culture as an influence to convey knowledge, skills, and attitudes (Ladson-Billings, 1995).

The term culturally responsive suggests that teachers can address the myriads of academic needs of all students from diverse backgrounds. The theory of culturally

responsive teaching and learning states that educators must develop a cultural diversity knowledge base for students, design culturally relevant curricula, demonstrate cultural caring, establish cross-cultural communications, and establish cross-congruity in classroom instruction (Gay, 2000). While teachers revealed several challenges in this area, the most relevant finding is the need to establish a time for teachers to share resources amongst each other, to collaborate to create additional content, and to have conversations about the needs of all learners.

Recommendations

The following section contains recommendation for the field of education based on the analysis of the data collected is this study and subsequent themes of instructional format, differentiated instruction, data driven instruction, relationships, and professional learning.

Practice

Teachers must contend with time constraints that are the result of the general demands of teaching coupled with learning how to implement a new instructional strategy (Garcia-Valcarcel et al., 2014; Gedik, Kiraz, & Ozden 2012; Sanchez & Hueros, 2010). Educators report that the design and teaching of blended courses is generally more time-consuming than it is for traditional courses (Benson, Anderson, & Ooms, 2011; Hill, 2006; Kenney & Newcombe, 2011; Korr, Greene, & Sokoloff, 2012; Napier, Dekhane, & Smith, 2011; Welker & Berardino, 2005-2006), which is perhaps not surprising given the multitude of variables specific to the blended learning environment. Comas-Quinn (2011) identified the reoccurring theme – shortage of time as the main factors in some of the teachers' abilities to effectively integrate technologies into the curriculum. In the case of

blended learning, teachers must create a blended learning environment supported with meaningful educational content. Lessons and activities that allow for students to critique and analyze information, connect with individuals around the world, and create projects that are relevant for diverse cultures must be a part of the conversation when personalizing instruction using the blended learning model. Teachers need time to develop online content and teach using the blended model of instruction (Quilici, 2012).

Community involvement and engagement is vital for a successful implementation of the blended learning model of instruction to personalize learning for our diverse students. This community participation begins with developing an understanding of what the blended learning model of instruction is, what a blended learning classroom environment looks like, and how students benefit social, emotionally, and academically from learning in a personalized environment. Parents, guardians, and community members can experience this type of learning and instruction during back-to-school nights, parent nights, and even during parent-teacher conferences. The more opportunities for community members to experience personalized learning increases the likelihood for positive support in growing the initiative and in-turn positively impacting student achievement.

Culturally Relevant Pedagogy

Culturally relevant pedagogy must be included in the implementation of blended learning. Professional development should involve culturally relevant curriculum when personalizing the learning environment. While the participants in the study and River Valley Public Schools are not as diverse as other school districts, cultural factors and cultural beliefs must remain a part of every conversation if we are to truly meet the needs

of all individual learners. Incorporating culturally relevant pedagogy would support teachers establishing culturally connected relationships with their students. I anticipate a growing conversation around how the blended learning instructional model allows for culturally relevant curriculum with a focus on culturally relevant pedagogy to be used while personalizing instruction. An emphasis on culturally responsive instruction using, "cultural knowledge, prior experiences, frames of references, and performance styles of the ethnically diverse students to make learning encounters more relevant to and effective for them" (Gay, 2010, p.31) is needed by teachers. Simultaneously, teachers must ensure that students are exposed to different ways of thinking based on the multiple perspectives included in instructionally relevant pedagogy, which will enhance the personalization that is expected to occur in a blended learning classroom environment.

Administrative Support

Transformational leaders develop a shared vision for the school, build consensus around key priorities, hold high expectations, provide support, model appropriate values, and build collaborative cultures and shared leadership. Transformational leadership has positive effects on school culture (Barnett &McCormick, 2004), teacher commitment, teacher job satisfaction (Bolger, 2001), changed practices (Leithwood et al., 2004), planning strategies for change (Leithwood, Aitkin, & Jantzi, 2001), and student engagement (Leithwood, et al., 2003). Solutions for problems in the classroom require administrative support in the form of sound implementation procedures. Administrators must create a culture that supports teacher learning and fosters collaboration. Teachers who engage in frequent and continuous conversations about teaching and learning will create a motivated culture of shared practice as well as build stronger self-efficacy in the

mindset of the teacher (Killion & Roy, 2009; Reason, 2010). Collaboration empowers individuals creating a shared purpose and accountability (Reason, 2010). Furthermore, Reason (2010) concluded that collaboration can challenge inconsistencies, test values, establish accountability, build memories that instill trust, and reduce isolationism. Therefore, educators should work together to "plan, design, research, evaluate, and prepare teaching materials together" (Killion & Roy, 2009, p. 39).

There is some merit to allowing blended learning to grow organically among teachers in the school building. Fostering collaboration among teachers in the same content areas may be more supportive and productive than implementing frequent school-wide benchmarks for attempting to monitor progress. Collaboration can help to combat time constraints as well. Teacher collaboration can increase the creativity and consistency among teachers who are constructing a blended learning environment. Teachers can collaboratively create rules and procedures that students can learn to identify with blended learning, thus assisting with implementation. Administrators need to support teachers with consistent school-wide policies and procedures stemming from the needs of the teachers tasked with implementation rather than prescribing policies and procedures and requiring teachers to adapt.

Conclusions and Future Research

Conclusions

Teaching can be a difficult profession. The number of things that teachers are responsible for appears to grow exponentially. Understanding what it means to teach, specifically what it means to teach in a blended learning environment, is a critical piece of the puzzle when trying to implement change. Most educators lack knowledge and

skills to individually engage and personalize students' learning in classrooms purported to be a blended learning environment (iNACOL, 2006, 2011; Horn and Staker, 2011, 2012; Lindstrom and Speck, 2004; Means, Toyama, Murphy, Bakia and Jones, 2009; Vanderkam, 2013). Having in-depth knowledge of students and their cultural background will greatly support personalizing instruction in a blended learning environment. Darling-Hammond (2000) explained what is needed by teachers to support learning:

> Teaching for problem-solving, invention, and application of knowledge requires teachers with deep and flexible knowledge of subject matter who understand how to represent ideas in powerful ways, can organize a productive learning process for students who start with different levels and kinds of prior knowledge, assess how and what students are learning, and adapt instruction to different learning approaches. (p. 166)

As educational leaders develop plans for implementing new instructional strategies, it is important to consider the depth of knowledge on the topic with those involved. It is also critical that there is a focus on culturally relevant curriculum when personalizing instruction. Cultural pedagogy must be at the forefront of conversations to truly meet the individual needs of our diverse learners. The need for more differentiation that emphasizes the culture and background knowledge students bring to school with them will improve learning (Delpit, 1995; Gay, 2010; Hollins 1996; Ladson-Billings, 1995).

A potential cause for the problem of educator's limited knowledge and skills to individually engage and personalize students' learning in a blended learning environment (Achterman & Loertscher, 2008; Allen, Seaman, & Garrett, 2007; Bailey & Martin, 2013; Bailey, Hassel, Schneider & Vander Ark, 2013; Ferdig, Cavanaugh, & Freidhoff, 2012; Doo Hun & Morris, 2009) may be attributed to, according to Larson (2009), the relative static of education in the United States over the last one hundred years which fails to meet the changing diversity in the larger society. Educational innovations are

primarily implemented at the classroom level, and the responsibility for this implementation falls to the teachers. For any new program, approach to pedagogy or instructional strategy, the success or failure falls to the implementation. Waddel and Lee (2008) pointed out educators are motivated by a shared purpose as well as ownership for the agreed changes which leads to the acceptance of change and subsequent implementation. For this reason, leaders should create a stimulating environment where teachers can engage in the professional learning process either in small groups or whole group while collaborating with others both inside and outside classroom settings (Killion & Roy, 2009).

Teacher concerns provide insight regarding these innovations. The implementation of a new instructional strategy suggests that a large number of teachers are simultaneously sorting out new information, while continuing to perform the daily tasks of education. Their concerns should be considered early and often. Furthermore, their concerns should affect thoughtful modifications to implementation strategies by school and district administrators to maintain the support of teachers who are trying to perform many tasks at one time. A shared purpose is essential to the implementation of blended learning.

Regarding blended learning, teachers appear to need more time to create lessons and collaborate with other teachers on the structure of blended learning. Teachers have an understanding of how technology works and can build and create courses and content using a LMS. In addition teachers are skilled at finding the resources on the Internet, it is the time to complete the task that they are asking for. The success of blended learning will rest in the abilities of the district leaders and administrators to support time to the

process of creating lesson and activities to personalize learning for culturally diverse students and to foster a collaborative atmosphere surrounding the innovation of blended learning. Researchers have indicated that collaboration stimulates the brain allowing for deeper individual and group learning (Achterman & Loertscher, 2008). Teachers who engage in frequent and continuous conversations about teaching and learning will create a motivated culture of shared practice as well as build stronger self-efficacy in the mindset of the teacher (Killion & Roy, 2009; Reason, 2010). Collaboration empowers individuals, creating a shared purpose and accountability (Reason, 2010). Furthermore, Reason (2010) concluded that collaboration can challenge inconsistencies, test values, establish accountability, build memories that instill trust, and reduce isolationism. Therefore, educators should work together to "plan, design, research, evaluate, and prepare teaching materials together" (Killion & Roy, 2009, p. 39).

Additionally, the focus of blended learning should be on the relationships built and sustained between a student and the teacher. These relationships promote positive academic growth and support students socially and emotionally. The focus must remain on the individual student by providing instruction that is relevant to diverse learners. The relationship between a teacher and a student is the foundation upon which learning rests. For many students, their successes of failures are dependent upon the relationships they enjoy or fail to enjoy with their teachers. Kohn (2006) suggests most children do not fail due to their cognitive abilities but because they feel unwelcome, detached, or alienated from significant others in the educational environment. Effective teachers care about their students and demonstrate that they care in such a way that their students are aware of it. According to Thayer-Bacon and Bacon (1996), "Teachers who care about their students

are remembered, effect change, stimulate growth, and are more likely to be successful at teaching their students" (p. 255). Students need to feel affirmed and to be assured they are valued. They need to be challenged and they need to know they can succeed at a high level of expectation. Teacher expectations can be very powerful and can influence a student's attitudes and actions and lead to success or failure (Tomlinson & Edison, 2003).

Recommendations for Future Research

There is little research about blending learning practices in public schools at the elementary level and even less at the early childhood education level (Beaudry, 2011; Bennett, 2012; Gathany, 2012; Lefton, 2012; Ruiling & Overbaugh, 2009). Follow-up studies should be conducted to focus on the experiences of students, administrators, and professional learning facilitators at the pre K-6 environment. It is critical to acknowledge that all children learn differently and teaching them all the same things on the same day and in the same way will never allow teachers to educate students in personalized ways. When we find out what works for each individual student instead of what works on average for students, we will finally have answers to the problem of achievement gaps in the US. Additional studies on these student, teacher, and administrator experiences including how the individual needs are supported through the model of blended learning would be beneficial in the expansion of programs at the pre K-12 level.

Future studies should research different software packages to find programs that offer personalized learning paths for different learners. Studies of this nature could support the conversations addressing the need for teachers to have additional time to create content and lessons that are personalized for students and support administrators in the planning and implementation process. Researchers should study programs that offer a

curriculum where the teacher acts in the role of one-on-one tutor rather than teaching monolithically (preparing to teach, actually teaching, and testing the entire class) (Christensen et al., 2008, p. 111). This environment would shift teachers' attention to assisting students based on need.

Richards et al. (2006) explain that the broad framework of culturally responsive pedagogy is comprised of three dimensions: (a) institutional, (b) personal, and (c) instructional. The institutional dimension reflects the administration, its policies, and its values. For example when the institution is responsive to diverse needs, there is a strong focus on ensuring that allocation of resources such as quality teachers and planning of physical spaces is equitable across all schools. The personal dimension refers to the cognitive and emotional processes teachers must engage in to become culturally responsive. The instructional dimension includes materials, strategies, and activities that form the basis of instruction. Gay (2000) describes four necessary components for the practice of culturally relevant pedagogy: caring, communication, curriculum, and instruction. These parallel the personal and instructional dimensions of Richards, Brown, and Forde's framework. Further studies focused on culturally relevant pedagogy as it relates to teachers, administrators, and professional learning facilitators as it relates to the blended learning model at the pre k-12 level would be beneficial.

Similar studies using the same framework as this research study could be used to discover the differences among the various stakeholders or to triangulate the data to arrive at a more detailed understanding of the blended learning experience. As it was beneficial to explore the transition from a traditional teaching environment to that of a blended environment from the teachers' perspectives, it would be beneficial to explore

this transition experienced by students and other educational leaders. These types of studies will provide a better understanding of the support needed by teachers, students, and administrators implementing the blended learning instructional model at the pre K-12 grade levels.

Appendix A – Interview Protocol

Teacher Code:

Grade Level:

Date of Interview: _____ Time:_____

Introductory Questions

1) What grade are you currently teaching?

2) Do you know what is meant by the term Blended Learning?

    a. Follow-up/Probe
        i. Could you give me your definition of what blended learning is?

        ii. Do you incorporate technology into your lessons?

        iii. Do you personalize instruction? Can you cite examples of how you have done this?

        iv. Do you use a Learning Management System?

3) How many blended courses/content areas do you teach?

    a. Follow-up/Probe
        i. How long have you been teaching using the blended learning model?

        ii. How do you decide what to blend?

Research Specific Questions

4) What do you like most about teaching blended learning classes?

    a. Follow-up/Probe
        i. Why are those important to you?

5) What do you like least about teaching blended learning classes?

    a. Follow-up/Probe
        i. Why are those factors issues for you?

6) Do you prefer teaching face-to-face or using the blended learning model?

7) Tell me how you use blended learning in your classroom?

    a. Follow-up/Probe
        i. Can you cite some specific examples?

8) What challenges or obstacles have you encountered teaching in a blended learning classroom?

    a. Follow-up/Probe
        i. Can you cite some specific examples?

9) What successes have you seen teaching using the blended learning model?

Appendix B – Observation Protocol

Teacher Code:

Grade Level:

Date of Observation: _____ Time:_____

Classroom Environment:

Room layout –

Technology devices –

Classroom management –

Appendix C: Elementary and Secondary Educational Act; Definition of Professional Learning

The term professional development means activities that –

(A) are an integral part of school and local educational agency strategies for providing educators (including teachers, principals, other school leaders, specialized instructional support personnel, paraprofessionals, and, as applicable, early childhood educators) with the knowledge and skills necessary to enable students to succeed in a well-rounded education and to meet the challenging State academic standards; and
(B) are sustained (not stand-alone, 1-day, or short term workshops), intensive, collaborative, job-embedded, data-driven, and classroom-focused, and may include activities that—
(i) improve and increase teachers'—
(I) knowledge of the academic subjects the teachers teach;
(II) understanding of how students learn; and
(III) ability to analyze student work and achievement from multiple sources, including how to adjust instructional strategies, assessments, and materials based on such analysis;
(ii) are an integral part of broad school-wide and district-wide educational improvement plans;
(iii) allow personalized plans for each educator to address the educator's specific needs identified in observation or other feedback;
(iv) improve classroom management skills;
(v) support the recruitment, hiring, and training of effective teachers, including teachers who became certified through State and local alternative routes to certification;
(vi) advance teacher understanding of—
(I) effective instructional strategies that are evidence-based; and
(II) strategies for improving student academic achievement or substantially increasing the knowledge and teaching skills of teachers;
(vii) are aligned with, and directly related to, academic goals of the school or local educational agency;
(viii) are developed with extensive participation of teachers, principals, other school leaders, parents, representatives of Indian tribes (as applicable), and administrators of schools to be served under this Act;
(ix) are designed to give teachers of English learners, and other teachers and instructional staff, the knowledge and skills to provide instruction and appropriate language and academic support services to those children, including the appropriate use of curricula and assessments;
(x) to the extent appropriate, provide training for teachers, principals, and other school leaders in the use of technology (including education about the harms of copyright piracy), so that technology and technology

applications are effectively used in the classroom to improve teaching and learning in the curricula and academic subjects in which the teachers teach;
(xi) as a whole, are regularly evaluated for their impact on increased teacher effectiveness and improved student academic achievement, with the findings of the evaluations used to improve the quality of professional development;
(xii) are designed to give teachers of children with disabilities or children with developmental delays, and other teachers and instructional staff, the knowledge and skills to provide instruction and academic support services, to those children, including positive behavioral interventions and supports, multi-tier system of supports, and use of accommodations;
(xiii) include instruction in the use of data and assessments to inform and instruct classroom practice;
(xiv) include instruction in ways that teachers, principals, other school leaders, specialized instructional support personnel, and school administrators may work more effectively with parents and families;
(xv) involve the forming of partnerships with institutions of higher education, including, as applicable, Tribal Colleges and Universities as defined in section 316(b) of the Higher Education Act of 1965 (20 U.S.C. 1059c(b)), to establish school-based teacher, principal, and other prospective teachers, novice teachers, principals, and other school leaders with an opportunity to work under the guidance of experienced teachers, principals, other school leaders, and faculty of such institutions;
(xvi) create programs to enable paraprofessionals (assisting teachers employed by a local educational agency receiving assistance under part A of title I) to obtain the education necessary for those paraprofessionals to become certified and licensed teachers;
(xvii) provide follow-up training to teachers who have participated in activities described in this paragraph that are designed to ensure that the knowledge and skills learned by the teachers are implemented in the classroom; and
(xviii) where practicable, provide jointly for school staff and other early childhood education program providers, to address the transition to elementary school, including issues related to school readiness. (p. 294-296)

Appendix D

Consent for Participation in a Research Study

A Narratological Heuristic Multiple Case Study of Teacher Experiences Teaching in a Blended Learning Classroom Environment

Philip Andrew Thies
B.S.Ed., Kansas State University, 2001
M.A.Ed., Pittsburg State University, 2004

You are being asked to take part in a research study. This study is being conducted at The University of Missouri – Kansas City. The researcher in charge of this study is Philip Thies.

The purpose of this study is to describe the specific components that teachers need in both their knowledge and skills to individually engage and personalize students' learning in a blended learning classroom environment.

If you decide to take part in this study, you will be asked to complete a written narrative, an interview and two classroom observations.

*Written Narrative: You will receive a writing prompt and be asked to respond. The written response will take no more than one hour of time.

*Interview: You will be interviewed to gather data that you may not have been shared in their narrative writing. The interview will be audio recorded. No one will have access to the interview other than the researcher and the recordings will be stored securely on a password-protected computer. The recordings will be erased after being coded. The interview will take no more than one hour of time.

*Classroom Observations: Two classroom visits will be completed, to describe the classroom setting. This will be to simply observe the classroom setting/environment. The observations will occur two weeks apart from one another. Each observation will take no more than 10 minutes of time.

If you agree to take part in this study, you will be involved in this study for less than 3 hours over the course of one month.

Participation is voluntary, you may refuse to participate in any research activities or answer any questions you do not feel comfortable answering.

If you have questions about this study, you may contact the investigator, Philip Thies at 913-638-2825 or pthiesfam@yahoo.com

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