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THE EDUCATOR'S EXPERIENCE INCORPORATING BLENDED LEARNING IN A SECONDARY CLASSROOM

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ABSTRACT

Blended learning is a teaching strategy that broadly consists of the use of multiple methods of delivery, often including face-to-face and technology-enhanced teaching. Research on the efficacy of blended learning programs has lacked focus in large part due to the ambiguity of the definition. Most existing blended learning research has been conducted in post-secondary environments and centers on the experience of the student. Research on motivation and engagement in technology-enhanced learning classrooms yields both positive and negative outcomes found in some studies to be correlated to the involvement of the teacher in the design and facilitation of the technology. Given the dynamic role teachers play, blended learning which incorporates both face-to-face and technology-enhanced teaching has emerged as a popular choice. The gap in research on the secondary teacher's experience is addressed by this qualitative study.

Teacher interviews and focus groups were conducted with participants from one school district in the upper Midwest. Conclusions from the study showed that teachers find a blended teaching pedagogy effective at engaging and motivating students. It was also found that teachers appreciate strong in-building support such as a professional learning community for blended teachers and clear communication from the administration about blended learning procedures for all stakeholders. Lastly, it was found that teachers are often seeking their own training for additional blended strategies and technologies and would appreciate further training being offered by the district along with time to plan and implement.

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CHAPTER 1

Introduction

Blended learning is generally defined as a learning program where more than one delivery mode is being used to customize learning and optimize the learning outcome (Singh & Reed, 2001). Often blended learning incorporates components of face-to-face instruction with implemented technologies to enhance access and engagement with the content. But technology alone provides no inherent value to teaching and learning, its implementation must be thoughtful and intentional (Tucker et al., 2017). In this way, the presence of technology continues to permeate the conversation about how we teach and how we learn (Tucker et al., 2017). As our world becomes more automated and access to technology grows, the inclusion of technology as a method of instruction is inevitable and imminent. "Schools all over the country today are rethinking the way students learn and are seeking creative new ways to weave together the best aspects of face-to-face and online learning" (Tucker et al., 2017, p. 1).

Online learning, personalized learning, blended learning, and other innovative educational pedagogies have been around for decades, but the recent COVID-19 pandemic has been a seismic force in pushing these alternatives to traditional classrooms to the forefront. However, in a study conducted during the fall of 2020, 86% of teachers surveyed indicated that moving through a variety of teaching modalities from fully virtual to hybrid in response to COVID-19 restrictions had a negative effect on education (Kelly, 2021). Several studies found that remote teaching pedagogies correlated to low student engagement (Aldhafeeri & Alotaibi, 2022; Kelly, 2021; Shi et al., 2021). Additionally, the lack of resources and support for teachers aided in cumbersome and stressful implementations (Kelly, 2021).

Despite some of the negative effects reported regarding remote learning implementation, technology integration including online delivery methods can provide positive aspects to the teaching and learning process. Online accessibility utilized in virtual or hybrid delivery methods provides access to lessons independent of location. Online learning allows for rich and diverse conversations to be had across great distances and including multiple stakeholders. In addition to these collaborative opportunities, technology allows students to interact with information in new and exciting ways like 3D modeling and interactive labs (Snyder, 2021). Furthermore, the COVID-19 pandemic served as the impetus for great investments into online learning platforms, with around $18 billion US dollars per year being spent globally on edtech investment pre-COVID and an estimated $350 billion US dollars projected by 2025, further increasing the available content to teachers and students alike (Li & Lalani, 2020).

The COVID-19 pandemic was the single most disruptive event in education in modern history, but valuable lessons about how we teach and learn are to be had (Kelly, 2021). Suddenly, teaching practices that few had attempted were becoming required practice across the country. In the wake of this shift, teachers are reflecting on the educational reverberations that these changes have had and determining a course for the future. One consideration in addressing negative outcomes of technology integration and online delivery methods, such as low engagement, is to merge the benefits of instructional technologies with the proven benefits of face-to-face learning (Tucker et al., 2017).

Research has shown the link between motivation and student engagement particularly as fostered through the involvement and presence of the teacher (Fryer & Bovee, 2016; Quin, 2017; Skinner & Belmont, 1993). Specifically, supporting the social and emotional needs of learners is a pedagogical task that is best conducted face-to-face (Picciano, 2019). Online learning often

offers fewer prompts from instructors to attend to a task or sources of reinforcement while working and requires the engagement and self-regulation of the learner (Delen et al., 2014). A blended learning model combines the benefits of online and virtual learning with the benefits of face-to-face instruction, particularly the benefit of a strong teacher presence. In a quantitative research study of 196 undergraduate students, it was found that face-to-face learning time had a significant positive influence on learning in a learning management system or web-based learning mode (Baragash & Al-Samarraie, 2018). Acknowledging the teachers' vital role in finding this balance is important and a central focus of this study.

The term blended learning remains somewhat ambiguous and thus research in this area has been scattered and lacking in focus (Dzuiban et al., 2018; Oliver & Trigwell, 2005). In a systematic review of high-impact scholarship on blended teaching and learning, only 3.33% of the top-cited articles focused on K-12 settings (Halverson et al., 2012). In another systematic review of systematic reviews conducted recently, it was reiterated that blended learning research mostly targeted students and centered on higher education (Muhammad et al., 2022). It is important to note that the implementation of a blended learning model can take on many forms, but for the purposes of this research, I focused on blended learning models that combine face-to-face instruction with eLearning components. Further, given the vital role that teachers play in structuring blended learning and how their involvement is shown to be a predictor of student engagement, this study focuses on teachers who have implemented blended learning and how they have experienced this phenomenon in their classrooms.

Purpose of the Study

        The purpose of this phenomenological study is to examine the lived experiences of high school teachers who have implemented blended learning in their classrooms and understand how blended learning is impacting the secondary teaching and learning environment.

Research Questions

The following questions guided this study:

        1) How do secondary teachers describe their blended teaching experiences?

        2) What models, techniques, tools, and activities, that allow for a difference in time, place, path, and pace, do secondary teachers implementing blended learning believe increase student engagement?

        3) What training, professional learning, and resources do blended learning teachers perceive to be the most beneficial to their practice of integrating a blended teaching model?

Theoretical Framework

        For this study, Kolb's Experiential Learning Theory (1984) was used as the process by which to analyze the received data from blended learning teachers. The Experiential Learning Theory is defined as the process of creating knowledge through the transformation of experience (Kolb, 1984). Kolb's (1984) theory states that "ideas are not fixed and immutable elements of thought but are formed and re-formed through experience" (p. 26).

        Kolb (1984) first suggested that learning is a process consisting of our experiences as opposed to idealist and behaviorist theories that focus on outcomes. The Experiential Learning Theory is based on the previous learning theories of Dewey, Lewin, and Piaget (Kolb, 1984). The central tenant of each is the role that experience plays in the learning process (Kolb, 1984).

Dewey (1938) stated that "… the principle of continuity of experience means that every experience both takes up something from those which have gone before and modifies in some way the quality of those which come after…" (p. 35). The use of Kolb's Experiential Learning Theory (1984) helped to frame the knowledge of blended learning teachers as part of a continuous process of learning grounded in experience.

Significance of the Study

Most of the research on blended learning focuses on a higher-education perspective and often through the lens of the student experience (Halvorson et al., 2012; Muhammad et al., 2022), therefore, this qualitative study adds to the literature by offering the experiences of secondary blended learning teachers, a perspective that has not been significantly researched. This study also provides depth in the methodology of teaching a blended learning course as it examines teacher perspectives on what elements of blended learning instruction led to successful student learning outcomes. As teachers consider teaching in a blended learning format and embark on designing a course that impacts student learning outcomes, this research can serve as a tool to inform them of effective practices. Finally, school districts and administrators will find this research valuable as they consider how offering blended learning courses will impact both their faculty and their students.

Definition of Terms

The following terms are provided to establish uniformity and understanding throughout this study. All definitions have been generated by the researcher if not accompanied by a citation.

Asynchronous learning: learning that does not occur at the same place or at the same time.

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Blended learning: Broadly defined as a learning program where more than one delivery mode is being used to optimize the learning outcome (Singh & Reed, 2001). Modern definition includes the combination of active, engaged learning online with active, engaged learning offline to provide students with more control over the time, place, pace, and path of their learning (Tucker, 2022).

eLearning: the utilization of electronic sources to learn and communicate, often utilizing the internet.

Phenomenological study: a study aiming to find commonalities and meaning from a phenomenon experienced by multiple individuals (Creswell & Poth, 2018).

Delimitations

1. Limiting the participants to high school teachers in an upper Midwest school district, results may be specific to this demographic.

2. Due to the methodology chosen and the limited number of participants in the study the results may not be generalized beyond the population chosen.

3. A phenomenological study utilizes researcher interpretation and analysis. All previous biases, experiences of the phenomenon, and assumptions related to this study were acknowledged and reduced. I currently serve as a high school math instructional coach in an upper Midwest school district where I work with teachers who are implementing blended learning in their classrooms. I have not personally taught a blended learning format, but I have taken blended learning courses and found them to have a positive impact.

Limitations

1. Participant responses are assumed to be honest and truthful.

2. Study includes different content areas and therefore implementation and outcomes may be varied.

3. Participant willingness to partake and availability are outside my control.

4. In the district where this study took place, teachers must take a course on blended learning and have administrator approval to implement this course format. For this reason, I was limited to teachers who have taken the blended learning course, gained administrator approval, and chosen to teach a course in the blended learning format.

Organization of the Study

There are five chapters included in this study. Chapter 1 provides an introduction, a statement of the problem, the purpose of the study, research questions, a theoretical framework, the significance of the study, a definition of terms, delimitations, and limitations. In Chapter 2 a review of current and related literature on student engagement, motivation, brain-based learning, preferences for learning, differentiated and scaffolded instruction, and blended learning are considered. Chapter 3 contains an overview of the hermeneutical phenomenological study, methodology, description of the study participants, connection to the theoretical framework, measures of data, ethical issues, data collection, and data analysis procedures. Findings from the data analysis are presented in Chapter 4. Finally, Chapter 5 includes a summary of the findings and a discussion of the conclusions drawn, along with recommendations for further research.

CHAPTER 2

Literature Review

The purpose of this phenomenological study is to examine the lived experiences of high school teachers who have implemented blended learning in their classrooms and understand how blended learning is impacting the secondary teaching and learning environment. In this chapter current research on student engagement, motivation, brain-based learning, preferences for learning, and differentiated and scaffolded instruction are discussed. The use of technology in and out of the classroom is considered and the research supporting it is reviewed. Throughout the literature studied it was found that technology alone is not a cure for our varying student needs, but that well-designed use and incorporation of technology can enhance traditional face-to-face instruction (Tucker et al., 2017). Through his research, Picciano (2019) points out that pedagogy should drive the use of technology, not the other way around. Therefore, models that incorporate the best of technology and traditional teaching are considered. Blended learning models, while ambiguous to define, are a combination of face-to-face instruction and technology-enhanced instruction or eLearning (Singh & Reed, 2001). This chapter includes a discussion of key components of blended learning, specifically blended learning implementation in secondary school settings as a response to the diverse needs of learners.

Literature Review Procedures

Resources for this literature review were obtained from I.D. Weeks Library at the University of South Dakota in Vermillion, shared and recommended texts from faculty and committee members at the University of South Dakota, and the following databases: Educational Resources Information Center (ERIC), Education Research Complete (EBSCOHost), Sage Journals, ProQuest, and Google Scholar. Search terms included: blended learning, secondary

blended learning, student engagement, student motivation, differentiated instruction, scaffolded instruction, brain-based learning, technology in education, educational technology, asynchronous learning, engagement in blended learning, motivation in blended learning, and teaching blended learning. Sources were narrowed to the most recently published work within the last 10 years if possible. Literature was also narrowed, when possible to focus on references that specifically related to work in secondary schools and the teacher's perspective of teaching blended learning to gain information specific to the purpose of this study.

Student Engagement

Educators and scholars agree that student engagement is paramount to learning (Bergdahl et al., 2020; Halverson & Graham, 2019). Student engagement has been shown to impact educational outcomes like achievement, persistence, satisfaction, and a sense of community (Halverson & Graham, 2019). Additionally, the costs of disengagement are poor motivation, low achievement, and high attrition (Halverson & Graham, 2019; van Rooij et al., 2017). Teachers strive to find new and exciting ways to impart their subject matter knowledge to students, and one of the most popular modalities is the use of technology. In their research, Zilvinskis et al. (2017) review copious amounts of studies on student engagement given various circumstances, and the inclusion of technology is at the forefront of this research (Bergdahl et al., 2020; Halverson, 2016; Halverson & Graham, 2019). Understanding how the use of technology from PowerPoints to full remote eLearning engages learners and contributes to learning outcomes has become a fast-growing area of research (Bower, 2019). However, determining the degree of learner engagement in different learning environments is hampered by the absence of an accepted instrument to measure engagement (Halverson, 2016).

Technology Enhanced Learning (TEL) disrupts the traditional classroom by offering new and interesting ways to illustrate and share information. Whether teaching in a traditional face-to-face classroom via technology like PowerPoint, Google Slides, or Pear Deck or extending the class to a digital collaborative space for discussions using a web-based learning management system like Google Classroom, the use of technology has become pervasive in education. Bergdahl et al. (2020), found in their study of 410 secondary students that direct relationships between student performance and engagement in TEL exist. While a consensus among researchers on how to describe or capture engagement remains elusive, Bergdahl et al. (2020) used interviews and engagement and disengagement theory to design a questionnaire with Likert scale questions coded into subthemes reflecting behavioral, cognitive, emotional, and social engagement. According to their findings, high-performing students found it easier to concentrate than low-performing students in a TEL environment (Bergdahl et al., 2020). This raises concern about the efficacy of the inclusion of technology and the effects on engagement, specifically in low-performing students. Researchers Aldhafeeri & Alotaibi (2021) also noted that some students conflate involvement (merely browsing the screen) with engagement (deep interaction with the material) and expect learning to spontaneously happen. One conclusion from the work of Bergdahl et al. (2020) and Aldhafeeri & Alotaibi (2021) is that without teaching strategies for appropriate technology use on the part of the teacher and the student, students can easily become disengaged in the course content while becoming distracted by unauthorized technology multi-tasking like gaming and using social media.

The Role of Teachers

By postulating that traditional measures of engagement such as time on task may not be valid in a digital classroom, Aldhafeeri & Alotaibi (2021) addressed the issue of low engagement

during TEL by testing a digital education shifting (DES) model. The DES tested included

components of awareness, readiness, acceptance, and orchestration (Aldhafeeri &Alotaibi,

2021), thereby reinforcing the idea of relying on research-tested strategies for technology

implementation and use to overcome student disengagement. As the results of the research of

Aldhafeeri & Alotaibi (2021) show, the role of the teacher in the strategic planning and

implementation of TEL cannot be overlooked.

As research evolves to a more holistic view of engagement, the idea that engagement

isn't an attribute of a student, but rather something that is highly influenced by external

contextual factors has been studied (Quin, 2016). Teacher-student relationships (TSRs) have

been found to have direct and indirect effects on many indicators of student engagement (Fall &

Roberts, 2012). "Overall, across the reviewed studies, better quality TSRs were associated with

higher levels of psychological engagement, academic achievement, and school attendance and

reduced levels of disruptive behaviors, suspension, and dropout" (Quin, 2016, p. 373).

Motivation

Motivation is closely related to engagement and some researchers would suggest that one

can predict the other. Intrigued by the prediction that blended learning will soon become the

"new normal", Tseng and Walsh (2016) conducted a study at Jacksonville State University that

compares the elements of engagement and motivation in a traditional versus a blended learning

course. Tseng and Walsh (2016) reported that the student-centered nature of a blended learning

course provided students with increased autonomy, as well as personalization. They found that

students in blended courses reported higher levels of motivation including significant differences

in the categories of confidence and satisfaction (Tseng & Walsh, 2016). But determining if

blended learning drives student motivation as postulated by Tseng & Walsh (2016), or if student

motivation fosters success in blended learning as suggested by Bergdahl et al. (2020) is a complicated endeavor.

Shi et al., (2021) sought to connect the themes of strong blended learning pedagogy, student cognitive engagement, and student motivation in their quantitative study of 385 high school students and an additional qualitative phase involving 43 of the students. They found as many others have, that remote students can suffer low cognitive engagement and motivation and this demonstrates the need for good instructional pedagogy to drive technology integration in schools (Shi et al., 2021). Some student comments included that when the remotely presented content was too difficult for them and they were not provided scaffolding and support, their motivation decreased (Shi et al., 2021). Overall, Shi and colleagues' (2021) findings support that students' perception of teacher presence and pedagogy had a strong predictive effect on motivation.

Similarly, when studying student motivation during eLearning, Fryer and Bovee (2016) noted that while changes in the modality of the learning may alter the role of the teacher, their fundamental roles of instructing and supporting remain constant. Perceived teacher support exhibited a range of influences on students' motivations (Fryer & Bovee, 2016). In fact, "when properly designed, eLearning environments themselves can play a role in supporting students' motivations" (Fryer & Bovee, 2016, p. 23), indicating how the indirect role of the teacher in the planning and implementation of the TEL environment affects student motivation. More directly, it was found that strong teacher support, especially in the first few weeks of a TEL course, can have longstanding and substantial effects on student motivation (Fryer & Bovee, 2016, p. 28).

Finding appropriate ways to motivate all learners has been the focus of much research. Designing learning environments that hold interest and generate enthusiasm can lead to more

intrinsically motivated students (Serin, 2018). Echoing the research of Fall & Roberts (2012), Quin (2016), Shi et al. (2021), and others, Serin (2018) summarizes some important factors for increasing student motivation including teacher features, learning environment, and student choice. These factors are based on research like self-determination theory (SDT) and give tangible ways that teachers can impact motivation. Interestingly, researchers are finding these factors are perfectly suited to be employed in TEL classrooms (Fryer & Bovee, 2016).

Theories of Motivation

Two theories that have sought to explain the engagement and motivation of students are the self-determination theory (Deci & Ryan, 2008) and the self-system model of motivational development (Fall & Roberts, 2012). Self-determination theory suggests that people can become self-determined when their needs for autonomy, competence, and relatedness are fulfilled. The three components of self-determination theory (autonomy, competence, and relatedness) are said to foster creativity, persistence, and enhanced performance (Center for Self-Determination Theory, 2022). Self-determination theory also posits that if any of these needs are not met or supported within a particular social context, the detrimental effects on well-being could be profound (Center for Self-Determination Theory, 2022). "We found that conditions supportive of autonomy and competence reliably facilitated this vital expression of the human growth tendency [intrinsic motivation], whereas conditions that controlled behavior and hindered perceived effectance undermined its expression" (Ryan & Deci, 2000, p. 76).

Based on self-determination theory, the self-system model of motivational development connects engagement, motivation, and student outcomes by suggesting that 1) self-systems mediate the relation between a social context and school engagement and 2) engagement mediates the relation between self-system processes and student outcomes (Fall & Roberts, 2012,

p. 788). Figure 1 illustrates the mediated relationships students have with teachers, parents, and peers and their effect on motivation.

Figure 1

The self-system model of motivational development.
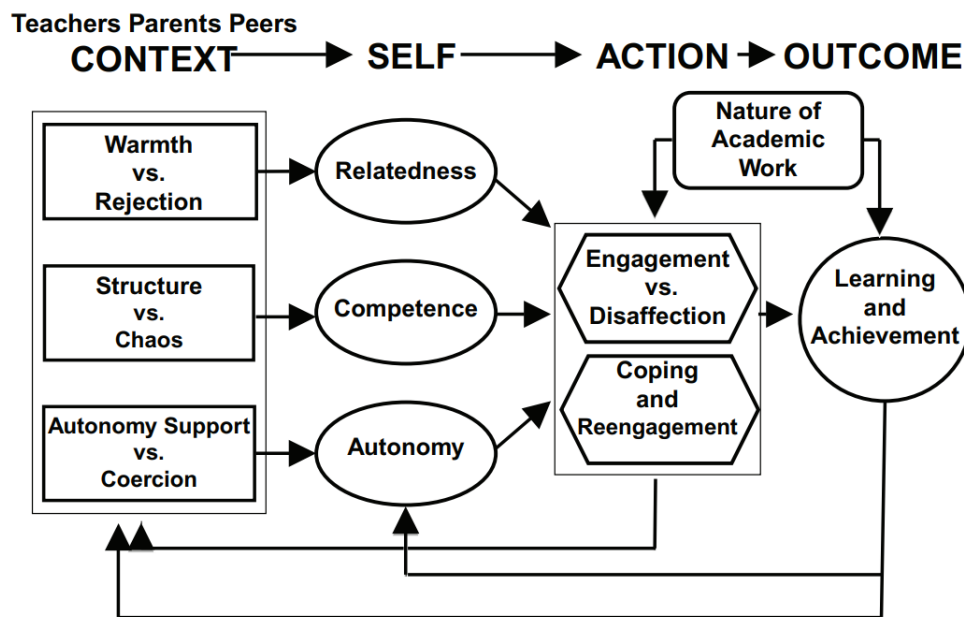
Note: From "*The Influence of Teacher and Peer Relationships on Students' Classroom Engagement and Everyday Resilience*" by Furrer, Skinner & Pitzer, 2014, p. 105.

Shi and colleagues (2021) hypothesized that constructs of self-determination theory and self-system model of motivational development paired with strong instructional pedagogy in the design of a blended learning course would more effectively ensure student engagement, motivation, and thus achievement.

Brain-based Learning

Determining the most effective way to teach must come from research about the way we learn. "Education is more than reaching certain standards of learning; education is developing a desire to learn, knowing how to learn, and implementing teaching practices based on how the brain actually functions" (Given, 2002, p. viii). Brain-based education, as defined by Jensen and

McConchie (2020), is based on solid research from brain-related disciplines that consider how the brain best learns and then develops education based on that research. A previously common model of education is operant conditioning which was popularized in the 1950s and seeks to influence students through the use of rewards and punishments (Jensen & McConchie, 2020). Jensen and McConchie (2020) push back on the operant conditioning model by reminding us that humans are creative and emotional. Parallel to the previous research cited on engagement and motivation, humans are driven by connection both socially and emotionally.

By looking at what sparks our interest and ability to learn, we can shift from models like operant conditioning that assume all brains will respond the same to models that take the individual student into account. Pulling from the research of the UCLA Brain Mapping Center, Jensen and McConchie (2020) explain that it was previously thought most brains were 'typical' and had few measurable brain differences. However, it is now known that closer to 90% of brains are 'atypical' showing many variances, and therefore educators should be mindful that rigid models of teaching and learning do not tap into most students' capabilities.

Research by the Pew Charitable Trusts, an independent non-profit, non-governmental organization, reinforces the uniqueness of each person's brain and how adaptable the brain can be (McCandliss & Toomarian, 2020). In a study examining how the brains of students struggling with reading change over time while receiving tutoring, it was found through MRI imaging that white matter tracks (fiber bundles connecting parts of the brain) changed remarkably, as did reading skills compared to students not receiving tutoring (McCandliss & Toomarian, 2020). "These findings place increasing focus on how the right educational supports can lead to positive changes in both the mind and brain" (McCandliss & Toomarian, 2020, para. 6). Those educational supports include differentiation and scaffolding determined by the teacher. "This

adds to a growing body of work suggesting that with their instructional choices, teachers can play a significant role in helping to direct learning, which may have an impact on which brain circuits are changing as a result" (McCandliss & Toomarian, 2020, para. 8).

Differentiation

Similar- or same-age students with varying abilities exist in every classroom, therefore, teachers are required to understand and respond to those differing abilities and needs to increase student success and reduce student disengagement and failure (Bondie, 2019; Tomlinson, 2017). According to Tomlinson (2017), teachers can and should adjust their teaching methods based on the learning position of each student so that the learning matches the learner. Differentiated instruction is a teaching approach that is student-centered and encompasses developmental evidence from empirical brain-based studies, viewpoints of learning styles, and constructivism (Lai et al., 2020). Bondie (2019) calls upon teachers to reflect on the impact of their instruction on student learning both before and after teaching to address the diverse learners in their classroom.

In their study of sixth-grade mathematics students and the effect of differentiated instruction on student self-efficacy, learning motives, and problem-solving skills, Lai et al. (2020) found a differentiated learning environment helped satisfy student needs and led to successful learning experiences and positive emotional reactions. Lai et al. (2020) found that differentiated instruction helped to grow student self-efficacy by offering control and supports that foster confidence and motivation. The use of diverse teaching strategies piqued and promoted students' learning interests (Lai et al., 2020). The elements utilized in this study's model include differentiation of content, process, products, and learning environment. Content refers to what the students need to learn, or how they are going to access this; the process

includes the instructional activities that engage students in meaningful, sense-making learning; products are the culminating tasks that require the students to review, apply, and extend what they learn; and learning environment is how the classroom looks and feels (Lai et al., 2020, p. 2). Lai and colleagues (2020) conclude that "It is, therefore, the teachers' and educators' responsibility to provide a well-designed learning environment where the needs of all students can be attended to, and where their diverse capabilities can consequently flourish and be maximized" (p. 9).

Differentiated instruction is an essential tool that allows teachers to hold high expectations despite the varied experiences, understandings, needs, interests, and strengths that students bring to the classroom (Bondie, 2019). The model that Bondie (2019) suggests includes a three-step decision-making process. First, teachers identify academic diversity that impedes or strengthens student learning by looking at and listening to student behaviors and interactions. Secondly, teachers analyze their observations to identify if students need increased clarity, access, rigor, and relevance (CARR). Third, teachers opt to change instruction for all, some, or individual students to increase CARR. The instructional changes that teachers can choose to implement include adjusting common instruction, using specific resources including leveled texts, scaffolds, or materials based on student interest, or individualized practice (Bondie, 2019). While the work falls heavily on the shoulders of the teacher in both of these models of differentiation, the changes that teachers opt to make are not necessarily extensive, but slight adjustments to support individual learners.

Another definition proposed by Roy et al. (2013) for differentiated instruction is varying and adapting teaching to match students' abilities. The adaptations suggested in this subsequent study by Guay et al. (2017) are similar to previously stated strategies: altering the curriculum,

varying assignment and assessment methods, and providing alternative materials. The current study by Guay et al. (2017) relates differentiated instruction along with structure to students' perceived competence and cites the connection to self-determination theory. In this study, structure refers to the direction, guidance, and explicit rules provided in the classroom. Guay et al. (2017) found that the effect of teacher structure on student autonomous motivation was only positive when differentiated strategies were consistently used. The combination of known expectations and consistent support for achieving them resulted in students feeling competent and effective and more willing to engage in school activities autonomously (Guay et al., 2017).

Given the various definitions of differentiation and the known positive effect only when used consistently, differentiation is often seen as an overwhelming undertaking by teachers. Looking for strategies of differentiation has led many teachers to blended learning. While incorporating the best of face-to-face learning with wisely chosen technologies has the potential to meet the different needs of learners, Boelens et al. (2018) caution that blended learning needs to offer flexibility beyond the time and place of learning. Boelens and colleagues sought in their 2018 study to understand the connection between differentiation and blended learning. It was noted in their study that most of the research on differentiation focused on primary and secondary education, while most blended learning research has been conducted in higher education (Boelens et al., 2018).

Scaffolding

Scaffolding is structures of support that temporarily assists learners in accomplishing a new task or understanding a new concept (Janson et al., 2020). Relating to self-determination theory and the self-system model of motivational development, scaffolds exist to foster learners' confidence, competence, and independence through appropriate structure and support (Janson et

al., 2020). Janson et al. (2020) state repeatedly that the goal of scaffolding is to keep learners engaged and motivated by strategically placing learning activities within their zone of proximal development. Therefore, knowing what and when to scaffold is vital to the success of this intervention (Janson et al., 2020).

When researching scaffolding as it relates to technology-mediated learning (TML) Janson et al. (2020) considered cognitive load theory (CLT). Three types of cognitive load exist in the CLT framework: intrinsic, extraneous, and germane. The difficulty of a task due to prior knowledge of the learner would be classified as intrinsic load and cannot be affected by instructional design (Janson et al., 2020). The resources of the working memory that are necessary for learning are considered germane load (Janson et al., 2020) and also are unaffected by instructional methods. Competing for available resources with germane load is extraneous load. All non-learning load falls under extraneous load which is affected by instructional methods including scaffolding (Janson et al., 2020). The goal of scaffolding is to decrease extraneous load thereby freeing cognitive resources for germane tasks like schema acquisition. Therefore, procedural scaffolds that make learning processes more explicit allow for more of our finite cognitive resources to be dedicated to the learning rather than the process.

In addition to procedural scaffolds, Janson et al. (2020) researched three additional types of scaffolds used in TML including metacognitive scaffolds, conceptual scaffolds, and strategic scaffolds. Metacognitive scaffolds support students in their understanding of and progress toward a learning goal, conceptual scaffolds support students in the use of TML and offer cues or hints to overcome challenges, and strategic scaffolds help students make connections to prior learning and use this to support new problem solving (Janson et al., 2020). The absence of any of these scaffolds in a TML environment could lead to student disengagement and frustration, while the

use of scaffolds was shown by Janson et al. (2020) to improve student problem-solving activities and be a significant predictor of learning outcomes and satisfaction with the learning process.

Self-Regulation in eLearning

Research is showing that a lack of instructional scaffolds in online learning environments may cause students to struggle to regulate their learning or achieve a deep understanding of complex topics (Delen et al., 2014). Learning through technology requires the engagement and self-regulation of the learner (Delen et al., 2014). Online learning often offers fewer prompts from instructors to attend to a task or sources of reinforcement while working (Delen et al., 2014). In a quantitative research study of 196 undergraduate students, it was found that face-to-face learning time had a significant positive influence on learning in a learning management system or web-based learning mode (Baragash & Al-Samarraie, 2018). "Thus, learners are likely to optimize their learning and performance in online learning environments when design and development of online learning tools are informed by research on learners' self-regulation and motivation" (Delen et al., 2014, p. 312).

As noted by Janson et al. (2020), research reveals that technology-mediated learning often fails to reach its potential to create innovative learning environments due to a lack of features that support self-regulated learning phases. To avoid the trap of technology being heralded as innovative without attending to the needs of learners, the use of appropriately designed note-taking tools, supplemental resources, and self-evaluation opportunities can scaffold the metacognitive and self-regulation abilities of students (Delen et al., 2014). However, designing appropriate tools and scaffolds to enhance cognitive learning strategies requires training based on research (Delen et al., 2014). This research needs to move beyond comparing one modality to another and begin to examine how students learn and the role teachers play in

each context so appropriate learning environments that foster student learning can be facilitated (Sun et al., 2018).

Blended Learning

The advent of the internet spurred the creation of many new terms for the education family such as online learning, e-learning, and web-based learning. Much research on these new forms of instruction has been conducted, specifically in comparison to traditional face-to-face instruction (Güzer & Caner, 2014). While scholars continue the debate about which modality serves students best, the blended learning model combining both face-to-face and technology-enhanced modalities has emerged as a popular choice for teachers (Güzer & Caner, 2014). As of 2021, it has been noted by Archibald et al. (2021) that blended learning is the fastest-growing method of teaching and learning in North America and many parts of the world. Recently the COVID-19 pandemic has forced many of these teaching practices that few had attempted previously to become required practice across the world. In the wake of this shift, teachers are reflecting on the educational reverberations that these changes have had and determining a course for the future. "Schools all over the country today are rethinking the way students learn and are seeking creative new ways to weave together the best aspects of face-to-face and online learning" (Tucker et al., 2017, p. 1).

Blended forms of instruction have existed for over 50 years (Pappas, 2015). Starting with distance education in the form of letter correspondence between teacher and student, it has evolved through broadcast radio and television, open universities, teleconferencing, and most recently, the internet (Florian & Zimmerman, 2015; Güzer & Caner, 2014). However, it has been noted that blended learning is often ambiguous and no agreed-upon definition exists. Blended learning today is generally defined as a learning program where more than one delivery mode is

being used to customize learning and optimize the learning outcome (Singh & Reed, 2001). More specifically, blended learning often involves components of face-to-face instruction paired with instructional technologies asynchronously.

In the early 2000s, some seminal research was done by Osguthorpe and Graham (2003), Singh (2003), and Garrison and Kanuka (2004), which helped define blended learning. Their early definitions have appeared often in blended learning literature and all have commonalities of multiple learning modalities in response to known problems being faced in education at the time. However, recognizing that an explicit definition of blended learning would be difficult to agree upon, scholars during the rise of blended learning in the late 2000s focused on two avenues of research: the perceptions of participants of blended learning and the effectiveness of blended learning (Güzer & Caner, 2014).

Generalizing findings from four studies on the perceptions of students participating in a blended learning course, Güzer and Caner (2014) found that while blended learning environments were well received, the face-to-face component was regarded as a vital element of learning. In a study by Akkoyunlu and Soylu (2008) of 34 undergraduate students participating in blended learning courses, student responses indicated that learning is best linked with classroom teaching. This study also utilized Kolb's Learning Style Inventory to help determine how learning styles are affected by a blended learning model (Akkoyunlu & Soylu, 2008). Results of the study have led to expanding the definition of blended learning to "use a blend of learning approaches in their strategies to get the right content in the right format to the right people at the right time" (Singh, 2003, p. 52). Moving beyond the simple definition of utilizing multiple delivery modes, blended learning requires that learning activities be thoughtfully and

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carefully chosen to reach each student and maximize learning outcomes through true personalization allowing for the difference in time, place, path, and pace (Tucker et al., 2017).

Early studies on the effectiveness of blended learning models were carried out most often at the post-secondary level, with only a few studies surfacing in elementary through secondary schools (Güzer & Caner, 2014). While each study took on different variables such as achievement, satisfaction, critical thinking skills, participation, behavior, learner support, affect, and retention, generally no significant difference in the achievement of students of blended learning courses versus those in traditional courses was found (Güzer & Caner, 2014). However, factors like satisfaction, motivation, the drop-out rate of at-risk students, attitude, and knowledge retention were shown to be improved in blended learning courses (Güzer & Caner, 2014). Güzer and Caner (2014) point out that while a positive outcome, student enjoyment of a course is not enough to ensure student learning; cultivating a course that encourages participation and social interaction through effective collaborative activities is a critical component.

Blended learning aims to combine the most effective components of face-to-face instruction and technology-enhanced learning tools to create learning environments that are personalized for each student (Tucker et al., 2017). Finding the right combination of instructional methods and tools can be very challenging, specifically in the areas of incorporating flexibility, stimulating interaction, facilitating students' learning processes, and fostering an effective learning climate (Boelens et al., 2017). An overview of research concentrating on designing blended learning environments that address these issues was conducted by Boelens et al. (2017) and will guide a discussion on the design of effective blended teaching and learning. It is important to note that all but one of the studies researched by Boelens et al. (2017) took place in higher education contexts, as has most research to date.

Blended Learning Models

Evidence is mixed on blended learning being a simple combination of face-to-face and technology-enhanced instruction or a truly unique learning environment (Vignare, 2007). Picciano (2019) uses a paint-mixing analogy to understand how different blended learning models might work. The mix of some blended learning courses is a simple separation of one or more components of the course into another format, like two different colors of paint (Picciano, 2019). Other blends are like mixing the paint to create an entirely new color, where there is less delineation of the tasks by modality, and more collaborative work across modalities (Picciano, 2019). This realization of the differences in blends gave way to a broad and narrow conceptualization of blended learning (see Figures 2 and 3).

Figure 2

Broad conceptualization of blended learning.

Blended Learning Conceptualization

Minimal Technology/Media

Students meet f2f – teacher uses simple technology such as email, or web for e-lectures.

Students meet online - teacher uses simple technology such as CMS, electronic bulletin boards.

Blended   Blended

Conventional Face to Face Classroom

Fully Online

Students meet f2f – teacher uses technology in class such as interactive simulations, digitally controlled experiments

Blended   Blended

Students meet online – teacher uses more advanced technology such as interactive videoconferencing

Technology/Media Infused

Source: Picciano, A.G. (2007). Chapter 1 in Picciano, A.G. & & Dzuiban, C. (Eds.) Blended learning: Research perspectives. Needham, MA: The Sloan Consortium.

Note: From "*Blending with Purpose: The Multimodal Model*" by Picciano, 2019, p. 11.

Figure 3

Narrow conceptualization of blended learning.
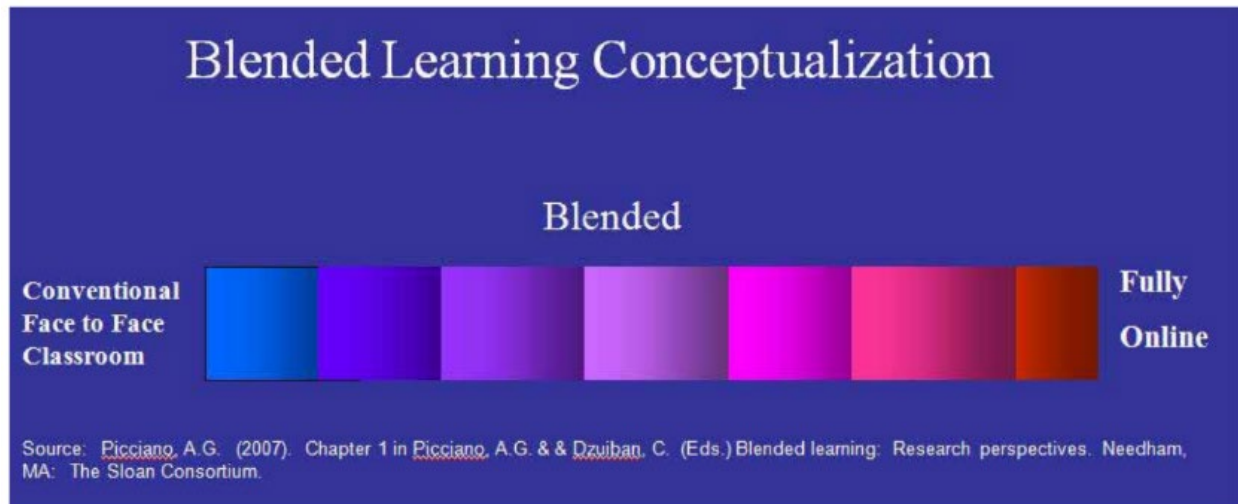
Note: From "*Blending with Purpose: The Multimodal Model*" by Picciano, 2019, p. 11.

In a review of studies of blended learning courses, Boelens et al. (2017) noted that in most of the selected studies, the instructor was making decisions about the realization of the blend. Instructors choosing a delivery method that is appropriate for the learning goals and objectives of the course makes sense, but it does remove some choice from the learner. "Further work is required to gain more insight into the tension between providing maximum flexibility and autonomy for students (in terms of time, place, path, space, and control over the realization of the blend) on the one hand, and carefully taking into account the need for structure and guidance of (certain) students on the other hand" (Boelens et al., 2017, p. 11). Research by So and Brush (2008) suggests that students' self-motivation and self-management abilities increase in importance as face-to-face time in class decreases. When determining an appropriate blend for students, considering the emphasis that remote learning modalities place on self-regulation is an important consideration (So & Brush, 2008).

Another perspective offers that learning and processing material on their own time allows for in-class time to be devoted to scaffolding for deeper engagement with the material through active learning tasks (Tseng & Walsh, 2016). In a study by Melton et al., (2009) students in blended learning courses took responsibility for learning content on their own time freeing up in-class time to scaffold for deeper learning through tasks. While giving students autonomy in time and place of learning requires a level of self-regulation, the study by Tseng and Walsh (2016) where students were sampled from instructors who were teaching the same course with one section meeting face-to-face and another in a hybrid or blended format reported significantly higher overall learning motivation from students in the blended course as compared to students in the traditional course. The extension of time and place in blended learning courses was found by Tseng and Walsh (2016) to put learners in the center of the learning by allowing ongoing communication and reflection on materials not bound by the constraints of in-class meeting times. Learners reported higher levels of confidence and satisfaction in the blended learning course versus the traditional delivery as well (Tseng & Walsh, 2016). Researchers Tseng and Walsh (2016) warn that to have a positive effect, course components must be "well-structured and meaningfully connected with each other in blended learning environments" (p. 50). This further emphasizes the importance of sound pedagogy driving the implementation of blended learning (Picciano, 2019, Tseng & Walsh, 2016).

Picciano (2019) suggests six pedagogical objectives and includes various activities to use with each to purposefully employ in a blended learning model. The first and perhaps most important is content. A course management system is an efficient way to disseminate text, video, and audio to users in ways outside of a traditional classroom lecture (Picciano, 2019). Attending to the social and emotional needs of learners is another important pedagogical consideration.

Relying on research previously reviewed, Picciano (2019) likewise suggests that utilizing the face-to-face component of a blended learning design is best for supporting students' social and emotional needs. Dialectic questioning has long been used by educators as a form of formative assessment to determine what students know and help them process their understanding of a concept (Picciano, 2019). Threaded electronic discussion boards have emerged as a useful way to pose questions and have students respond with time to develop their thoughts, participate, process the responses of others, and reform their perspectives (Picciano, 2019). Picciano (2019) notes that reflection is a powerful pedagogical strategy pointing to extensive research on reflective teaching and learning. Traditional journaling has been used as a strategy for student reflection and continues to be an appropriate tool both in a physical classroom or digitally through the use of shared electronic documents like Google docs or a blog (Picciano, 2019). Collaborative learning is widely accepted as not only good pedagogy for learning but also a skill that students will need and use often in today's workforce (Picciano, 2019). Technology has allowed collaboration to defy location with tools like Google Meet and Zoom and shared documents like Google Docs and wikis that allow work to be shared with others during creation and beyond the course (Picciano, 2019). And lastly, synthesizing, evaluating, and assessing learning is another pedagogical element that has been enhanced through technology tools that can be utilized by teachers in blended course design (Picciano, 2019). In addition to the course management systems like Google Classroom, shared documents like Google Docs, and meeting platforms like Zoom, students can create digital portfolios using multiple media like podcasts or YouTube videos to showcase their learning (Picciano, 2019). More formal assessments can be given using Google Forms or one of the numerous online testing platforms like Formative.com that have emerged. The consideration of the pedagogical objectives of a course such as content,

social and emotional needs of learners, questioning strategies, reflection, collaboration, and evaluation of learning should drive the choices of modality to create a course that feels personal and seamless (Picciano, 2019). "Personalization is not measured in data; it is experienced in how closely we *understand* our students as people. It cannot be achieved through technology alone" (Tucker et al., 2017, p. 183).

Blended Learning in Secondary Settings

In the late 1990s, the business community was a driver for change to web-based instruction (Florian & Zimmerman, 2015) followed by a boom in online learning opportunities in higher education (Dziuban et al., 2018). Researchers began pondering if secondary schools were preparing students to succeed in this new technology-enhanced world: "For students to be competitive, educators cannot wait until postsecondary school to expose students to these skills. Students will be better served if they are introduced to portable skills such as collaboration, critical thinking, and effective communication at the secondary level" (Florian & Zimmerman, 2015, p. 126). In a case study involving multiple stakeholder perspectives of a blended learning initiative in a Midwestern high school, Whiteside et al. (2016) found that blended learning helps students feel ready for college. As evidence mounts of the effectiveness of blended learning to produce student learners who are engaged, self-motivated, exhibit more developed self-regulation skills, work collaboratively, and feel connected to a community, K-12 schools need roadmaps for the implementation of blended learning models.

In their book *Blended Learning in Action: A Practical Guide Toward Sustainable Change*, Catlin R. Tucker, Tiffany Wycoff, and Jason T. Green (2017) suggest several models of blended instruction tailored for K-12 classrooms. These models put into practice the pedagogical considerations laid out by Picciano (2019) and specifically tailor their suggestions to the K-12

setting. The explicit models offered in *Blended Learning in Action: A Practical Guide Toward Sustainable Change* were taken further by Tucker (2020) in a subsequent title: *Balance with Blended Learning: Partner with Your Students to Reimagine Learning and Reclaim Your Life.* This book addresses how many of the models offered previously meet the needs of students and how to overcome hurdles faced by teachers in doing so. Both texts have served as seminal guides for K-12 educators in transforming their classrooms to a more student-centered approach.

One of the most notable blended learning models is the Station Rotation model (Tucker et al., 2017). The Station Rotation model draws on all the pedagogical considerations and research about how we learn including Howard Gardner's Theory of Multiple Intelligences, "to design dynamic learning station activities that employ different learning modalities and allow for more differentiation and individualization to improve comprehension, retention, and the students' ability to apply information" (Tucker et al., 2017, p. 109). This blended learning model is executed entirely on-site, so for teachers who are unable or unwilling to move the learning off-site as is often the case with K-12 classrooms, there is a viable option that incorporates the best of multiple learning modalities into the confines of a brick-and-mortar school building (Tucker et al., 2017). As students move through stations, they work in small learning communities on tasks designed to support learning and engagement in multiple modalities. One station is often a coaching session or lesson with the teacher, allowing the teacher time for targeted instruction, scaffolding, formative assessment, and real-time feedback for students (Tucker, 2020). Other stations might include collaborative group work, individual practice using adaptive software or online tools, designing or creating a presentation, review games on or offline, virtual field trips, online research, or a maker space to name a few (Tucker et al., 2017). As noted by Tucker et al. (2017) the flexibility of the model in what you can include, how it requires minimal technology,

and how it offers the teacher time to work individually or in small groups with students are among the many benefits of a station rotation model.

Another model for teachers to consider is a Whole Group Rotation model. This model is the closest to a traditional classroom where the entire group is moving through activities together (Tucker et al., 2017). In the Whole Group Rotation model, the students can take control of the pace and path by moving through the learning activities in their own time (Tucker et al., 2017). Weaving in online tools for practice can add a degree of personalization (Tucker et al., 2017) or differentiation for students to receive the right practice for their Zone of Proximal Development. Using adaptive learning tools allows for personalized practice and assessment during a Whole Group Rotation (Tucker et al., 2017). This time also affords the teacher the ability to work with individual students while other students are getting tailored practice (Tucker et al., 2017). Because of the similar nature to a traditional lesson where the group largely moves together through activities, the biggest challenge in planning for a Whole Group Rotation is often how to use technology to enhance the lesson objectives (Tucker et al., 2017). For this reason, Tucker and colleagues (2017) encourage teachers endeavoring to use this or any blended learning model to seek support from teacher trailblazers in their school or district who have successfully attempted this shift and work hand in hand with school leaders as well.

The Flipped Classroom model is another blended learning model that is closer to traditional teaching. In the Flipped Classroom model teachers shift the learning of new information online and move the application and practice of material into the classroom (Tucker et al., 2017). In a recent quantitative study Clark and Post (2021) that students who completed eLearning materials before participating in on-site group problem-solving activities performed higher in related assessment tasks than students who did not complete the pre-eLearning. The

results of their study demonstrate the value of frontloading material and using precious face-to-face time for active learning tasks and collaboration (Clark & Post, 2021).

The most pivotal task of designing a flipped lesson is determining what happens in class and what happens online (Tucker et al., 2017). Tucker (2020) said that the incorporation of videos transformed her classroom: "If I am planning to repeat the same information the same way for multiple groups of students, I record that explanation. I want students to have the luxury of controlling the pace at which they consume the information" (p. 58). Moving the lesson online allows for time in class to be used for collaboration, inquiry, problem-solving, and scaffolded practice (Tucker et al., 2017). Using online tools like TED-Ed or EdPuzzle can make watching a video lesson an engaging endeavor with opportunities for formative assessment along the way (Tucker et al., 2017). This method also supports the work of Delen et al. (2014) and others on the incorporation of appropriate access to scaffolded technologies that allow students to learn self-regulation. Teachers can use class time to foster student self-regulation in online lesson completion through the use of metacognitive strategies such as self-assessment where students answer end-of-the-week exit tickets about what they learned, how they learned it, and how it will support their learning next week (Tucker, 2020).

As students develop the self-regulation to move into more personalized and student-centered models, Tucker et al. (2017) suggest the Individual Rotations and Playlists Model. In this model, teachers select what learning activities each student will take part in and in what order and students control at what pace (Tucker et al., 2017). Teachers are checking in with students individually to scaffold the learning by answering questions, providing support in activities, and encouragement (Tucker et al., 2017). When teachers design individual playlists, they should aim for "rough synchronization" to allow for peer collaboration (Tucker et al.,

2017). Tucker et al. (2017) are quick to point out that while this model leans heavily on technology, "The role of the teacher is paramount to the success of the Individual Rotation Model" (p. 171). Teachers must carefully design playlists with tools and modalities that facilitate learning, and engagement, and provide instruction, supports, and feedback along the way (Tucker et al., 2017).

In a final step toward personalization, the A La Carte model is presented by Tucker et al. (2017). In this model, learning is highly asynchronous and requires increased student agency in the personalization of the learning (Tucker et al., 2017). The A La Carte model is considered a different approach to blended learning as there is not necessarily a face-to-face and online component. Students may choose a modality that is more online or more face-to-face, giving students full autonomy in how they learn. The A La Carte model is one of the earliest known online teaching methods and has been found useful in credit recovery programs, enrollment overloads, and offering options like dual credit and more specialized courses not offered in-building (Tucker et al., 2017).

Teaching Blended Learning

In a case study researching how blended learning was implemented in a New Zealand secondary school, Zaka (2013) succinctly summarized the prevailing issues in blended learning implementation found by researchers. Zaka (2013) pointed to three challenges: students' readiness and abilities to learn in a blended environment, teachers' ability to teach effectively in different modalities, and adequate support from school leaders. When summarizing the challenges of blended learning implementation in this case study, Zaka (2013) noted that increased time demands, attitudes toward blended teaching and learning, and a need to update pedagogical approaches are among the biggest challenges facing teachers during this time.

"Teachers needed to be adequately prepared to effectively support students who were learning in a blended environment" (Zaka, 2013, p. 31). Yet, despite teachers in this study being willing to adapt and change, they shared concerns about needing increased time for planning and effective professional development (Zaka, 2013). Teachers were encouraged to seek professional development and build capacity among themselves (Zaka, 2013). An important finding of this study was that encouraging professional growth both formally and informally through communities of practice is an effective capacity-building model (Zaka, 2013).

Findings from a study by Boelens et al. (2018) indicated that the level of differentiation provided in blended learning courses was often attributed to the instructors' beliefs about education. The authors found differences in instructors' beliefs mainly attributable to the organizational level, emphasizing how clear messaging, training, and support provided to instructors can affect classroom structure and outcomes (Boelens et al., 2018). Tucker et al. (2017) advise that "all stakeholders must be engaged and involved in the process of shifting behaviors, practices, and cultures" (p. 5). They emphasize this in their book stating that more important than the structures offered is getting all stakeholders to share the same vision and create a blended learning culture (Tucker et al., 2017). Taking a lesson from Simon Sinek's (2009) book *Start With Why*, Tucker (2019) asserts that it is the job of leadership to be clear about their *why* and provide teachers with the sense of safety and support necessary to buy in and take risks.

In their development of a blended teaching readiness instrument, Archibald et al. (2021) validated four competencies including online integration and management, data practices, personalization, and online interaction that accurately predict blended teaching readiness. The hope is that the instrument and accompanying survey will serve to inform programs of their

area(s) of greatest need allowing them to customize professional learning offerings and support (Archibald et al., 2021). Vignare (2007) found in a literature review using the Sloan-Consortium (now called the Online Learning Consortium) quality framework for blended learning that faculty satisfaction in teaching a blended learning course is directly tied to the amount of training and academic support they receive. "Technology support, pedagogical support, and faculty time to plan and execute and exchange ideas with other faculty will be critical for success" (Vignare, 2007, p. 56). Tucker (2019) agrees, affirming that once teachers are bought into the vision for blended learning, it is vital that they have an infrastructure of professional learning to support them (Tucker, 2019).

One suggestion for developing professional learning for blended teaching is it should mirror the shift intended to happen in the classroom. Targeted training, professional learning communities (PLCs), and one-on-one coaching sessions for teachers should emulate blended learning models and focus on building capacity (Tucker, 2019). Experiencing learning in new ways can help open the minds of teachers being asked to implement blended learning and show them how vital their role in this model is (Tucker, 2019).

Gaps in Research

In "A Systematic Review of Systematic Reviews on Blended Learning: Trends, Gaps and Future Directions" Muhammad et al. (2022) state that "The obtained findings highlight that BL (blended learning) was mostly investigated in higher education and targeted students in the first place". Additionally, "The lack of peer-reviewed resources for BT (blended teaching) preparation combined with the call from the U.S. Department of Education to prepare teachers for BT suggests the need for a greater focus in this area" (Short et al., 2021, p. 994).

It has been shown that teacher construction of and participation in the blended learning environment is pivotal to student engagement (Aldhafeeri & Alotaibi, 2021; Bergdahl et al., 2020). Teacher-student relationships are also a strong indicator of student engagement in the learning process (Fall & Roberts, 2012, Quin, 2016). Findings also show that students' perception of teacher support and pedagogy had a strong predictive effect on motivation (Fryer & Bovee, 2016; Shi et al., 2021). Teachers are also called upon to create well-designed instruction and learning activities that meet the needs of all their diverse learners through differentiation, scaffolding, and unique delivery methods (Lai et al., 2020). Being positioned in such a central way, Sun and colleagues (2018) call for research to consider how students learn and the roles teachers play in each type of learning environment. Among the many research issues related to blended learning, understanding what specific elements of blended teaching and learning are linked to increased faculty and student satisfaction is core to developing and implementing effective blended learning initiatives (Halvorson et al., 2012).

The research shows a dearth of studies focusing on blended learning in K-12 environments and specifically lacking studies examining blended learning from the teacher's perspective. Conducting a phenomenological study focusing on teachers of blended learning courses adds to the research by informing stakeholders considering a blended learning implementation what teachers experience and what supports they value. This research will offer a valuable perspective for those planning professional development for blended learning. The purpose of this phenomenological study is to examine the lived experiences of high school teachers who have implemented blended learning in their classrooms and illuminate teachers' perspectives regarding how blended learning is impacting the secondary teaching and learning environment.

Summary

This chapter reviewed current research on student engagement and motivation finding that many factors contribute to the engagement and motivation of students specifically in TEL environments including the pedagogy and presence of the teacher. In TEL environments students can become disengaged or unmotivated when the work is too difficult or lacks direct instruction from the teacher. How teachers differentiate and scaffold the learning in their classroom can be supported by teaching strategies like blended learning. Blended learning has most often been studied and implemented in higher education, but many models and pedagogies are transferable to the K-12 space. Throughout the literature studied it was found that technology alone is not a cure for our varying student needs, but that well-designed use and incorporation of technology can enhance traditional face-to-face instruction. Several models of blended learning that are designed for K-12 education were explained and the roles of the teacher were discussed. Preparing teachers to implement blended learning and the culture shift it requires of all stakeholders was laid out. Lastly, gaps in the existing research and calls for future studies were revealed.

CHAPTER 3

Methodology

This chapter describes the procedures and methodology used in this qualitative study. A hermeneutical, phenomenological approach was used by the researcher to examine the lived experiences of secondary teachers who have applied a blended learning pedagogy to their classroom instruction. Included in this chapter are descriptions of the purpose of the study, research questions, and the hermeneutical phenomenological research design. The theoretical framework is also discussed. Next, the background and role of the researcher are addressed along with the context of the study including participant selection, instrumentation, and the collection, management, and analysis of the data. Finally, ethical issues and a plan for addressing the trustworthiness of the study are presented.

Purpose of the Study

The purpose of this phenomenological study is to examine the lived experiences of high school teachers who have implemented blended learning in their classrooms and understand how blended learning is impacting the secondary teaching and learning environment.

Research Questions

1) How do secondary teachers describe their blended teaching experiences?

2) What models, techniques, tools, and activities, that allow for a difference in time, place, path, and pace, do secondary teachers implementing blended learning believe increase student engagement?

3) What training, professional learning, and resources do blended learning teachers perceive to be the most beneficial to their practice of integrating a blended teaching model?

Research Design

Qualitative research revolves around an interest in knowing more about a practice and asking researchable questions to improve the practice (Merriam & Tisdell, 2016). Specifically, rather than determining cause and effect or predicting, qualitative research seeks to uncover meaning (Merriam & Tisdell, 2016). The data collected in a quantitative study uses numbers as data, while a qualitative study uses words (Creswell & Poth, 2018; Merriam & Tisdell, 2016). The use of words as data allows for rich, detailed, and heavily contextualized descriptive data (Levitt et al., 2018). Numerical data can be valuable in determining the efficacy of a program or methodology, however, a qualitative study allows for detailed descriptions of how the program or methodology is experienced, and further, what meaning is ascribed to the experience (Creswell & Poth, 2018; Merriam & Tisdell, 2016).

A qualitative researcher aims to discover meaning by finding patterns and themes in the experiences of those who have lived the phenomenon (Levitt et al., 2018). In this qualitative study, the lived experiences of teachers who have implemented blended learning in their classrooms were examined. The themes that emerged from this study add to the literature on how to prepare and implement blended learning and how to support teachers of blended learning courses as an integral part of the process. Determining that a blended learning approach is appropriate must include the consideration of more than the quantitative data. Descriptive data on how this educational shift affects teachers is important to consider and plan for.

An examination of the literature revealed that students' experience in courses that utilize some form of technology is often dependent on the role of the teacher. Student engagement and motivation were found to be tied to the structure determined by the teacher and the involvement of the teacher in the course components. As the perspective of the student has been studied both

quantitatively and qualitatively, the experience of the teacher has been noticeably overlooked. Considering the pivotal role teachers play in the success of student learning outcomes in courses utilizing technology, developing an understanding of how teachers view their experience in teaching blended courses is important. In consideration of the increasingly diverse needs of students and the growing inclusion of technology into everyday instruction, understanding the lived experiences of teachers as they strive to meet these needs is a necessary endeavor. Creswell & Poth (2018) promote qualitative research as beneficial when there is no statistical measure for the study of interest. Therefore, the gap identified in the research for the perspective of the teacher (Muhammad et al., 2022) in their vital role in classrooms using blended learning (Aldhafeeri &Alotaibi, 2021; Fall & Roberts, 2012; McCandliss & Toomarian, 2020; Quin, 2016) necessitates a qualitative approach.

Phenomenological Research

Phenomenological research aims to understand experiences as lived (Peoples, 2021). Rather than verifying a hypothesis as a quantitative study seeks to do, the phenomenological approach engages in open-ended discovery (Levitt et al., 2018). By conducting a phenomenological research study, an understanding of what it is like to experience a certain phenomenon can be gained and hopefully used to broaden the way we see the phenomenon (Peoples, 2021). The experience of blended learning teachers is important to understand if professional learning for teaching blended courses is to be improved. According to Vagel (2018), the outcome of a phenomenological study is not a theory used to explain a circumstance, but rather insights that help us connect more with our world. Those insights about how teachers are experiencing this shift in education can bring together the objective and subjective dimensions of their lived experiences (Peoples, 2021). Administrators and teachers considering the

implementation of blended learning solely based on quantitative data can look to the findings of qualitative studies like this to gain an understanding of what it is like to experience implementing blended learning. Ultimately, this research will help districts, administrators, and educators determine if and how to implement blended learning in their schools using a more holistic lens to make these decisions.

Hermeneutical Phenomenology

As phenomenological research develops and data is analyzed, a spiral process emerges (Peoples, 2021). This process was described by Martin Heidegger and is part of a qualitative approach called hermeneutic phenomenology (Peoples, 2021). Heidegger believed that as we interpret something, any pre-understanding of the phenomenon gets revised as new information changes our understanding (Peoples, 2021). This process continues in a cyclical way where individual parts lend a new understanding to the whole until there is a full understanding of the phenomenon (Peoples, 2021).

The hermeneutic circle is the continual process of revision and synthesis of data into themes and comparing themes as they relate to the whole data set (Peoples, 2021). The evolutionary nature of this type of research allows the researcher to continually evaluate the biases brought to the research and revise them throughout the process (Peoples, 2021). It is posed by Peoples (2021) that separating oneself and all biases from research is not possible, and for this reason, addressing and revising biases is appropriate. Applying a hermeneutical phenomenological approach to the research allows for biases to be addressed throughout the research process. Additionally, the hermeneutic circle allows for a theoretical framework to be used for data analysis (Peoples, 2021).

Theoretical Framework

For this study, Kolb's Experiential Learning Theory (1984) was used as the process by which to analyze the received data from blended learning teachers. The Experiential Learning Theory is defined as the process of creating knowledge through the transformation of experience (Kolb, 1984). Experiences are organized into four abilities including concrete experiences, reflective observation, abstract conceptualization, and active experimentation (Kolb, 1984). Kolb's Experiential Learning Theory was used to understand themes developed from blended learning teacher interviews and focus groups.

Identifying significant statements and considering those statements in relation to the four abilities of concrete experiences, reflective observation, abstract conceptualization, and active experimentation helped the researcher understand where teachers are in the process of developing their blended learning courses. It is expected that teachers move through Kolb's Experiential Learning Theory multiple times as they evolve their blended teaching practice.

The use of Kolb's Experiential Learning Theory (1984) helped frame the knowledge of blended learning teachers as part of a continuous process of learning grounded in experience. The use of the four abilities in the cyclical model of Kolb's Experiential Learning Theory to analyze the data helped give an understanding of how knowledge is transformed during the process of teaching a blended learning course.

Background of the Researcher

At the time of the study, I was a high school mathematics instructional coach in an urban, upper Midwestern school district. I had 14 years of classroom mathematics teaching experience in the same district. During my years in the classroom, I experimented with many forms of technology including PowerPoint, Smart Notebook, Google Slides, Pear Deck, Screencastify,

Poll Everywhere, EdPuzzle, Google Meet, Zoom, and various other websites and technology applications. I attempted a flipped classroom for a unit during a curriculum pilot, taught remotely during the COVID-19 pandemic, and experimented with various other eLearning applications informally. Reflecting on each of these efforts, I received little to no training or support in the implementation of technology in my classroom. Teachers in my district were encouraged to use technology or restructure their classrooms to respond to the diverse needs of our learners, especially through the COVID-19 pandemic. However, training and resources were scant. Recognizing the adaptability of teachers in response to the need to teach remotely or in hybrid forms over the past few years, my curiosity was piqued about how teachers view these adjustments. I became interested in what improvements have been made to the resources and supports available to teachers seeking to use technology in their classroom as a way of supporting the diverse needs of our learners. Additionally, I was curious about what positive outcomes teachers of blended learning ascribe to implementing this methodology in their classrooms, specifically student engagement. The experience of teachers as they attempt to grow and adapt their practice in the face of changing needs emerged as a central focus.

To position myself in this research, I must express the experiences and beliefs that I bring to this work. Creswell and Poth (2018) advocate for researchers to bracket their personal views before beginning the research. At the time of this study, I was an instructional coach whose work included supporting teachers in the classroom as they seek to improve their teaching practice. My work as an instructional coach places me in situations where I was supporting teachers as they implement various technologies and pedagogies including blended learning models. My support of teachers utilizing a blended learning format was limited and mostly confined to the mathematics standards being taught rather than the format of the course. I had no formal training

in technology integration or specifically blended learning, nor had I attempted blended learning in my classrooms. My collegiate experiences included an undergraduate degree in mathematics and education and a master's degree in educational administration from four-year colleges, neither with an emphasis on technology.

While my experiences did not directly relate to teaching a blended learning course, they made remaining objective in my analysis difficult as I worked to not project my ancillary personal experiences into the themes. As suggested by Peoples (2021), finding a way to document and confront biases, such as journaling, can be a helpful way to bracket my experiences while collecting and reviewing data. I kept a research journal from the onset of this study to be cognizant of personal feelings about the data and themes as they emerge. This practice proved helpful for many reasons such as understanding how the collected data is changing my thinking as the process developed. By identifying personal biases through journaling while working through the hermeneutic circle (Peoples, 2021), I was able to keep my biases in front of me, allowing them to change as the data was analyzed and themes emerge (Levitt et al., 2018).

Role of the Researcher

Phenomenologists aim to study the world as it is lived (Vagle, 2018). The role of the phenomenological researcher is not to explain how things work, but to learn and understand how a phenomenon is experienced (Merriam & Tisdell, 2016; Vagle, 2018). The researcher will attempt to collect accounts of lived experiences and analyze the data for themes while protecting the confidentiality of participants (Creswell & Poth, 2018). Due to their central and active role in the gathering and analysis of data, the researcher is a key instrument in qualitative research

(Creswell & Poth, 2018). Developing an understanding of how people make sense of and interpret their lived experience is the culmination of the study (Merriam & Tisdell, 2016).

The participants for this study worked as teachers in the same district in the upper Midwest as I worked. Due to proximity, participants might be colleagues or individuals that I know. As an instructional coach, I have no evaluative power or authority over any colleague, including teachers who chose to participate in this study. No participant who holds a close work or personal relationship with me was included in the study. The purpose and scope of the study were explained to all participants and confidentiality was guaranteed. Information was kept securely stored on a password-protected device. Participants were allowed to use a pseudonym for the focus group. Group norms were given and consent was obtained by all participants before the focus group.

Context of the Study

The research was conducted in an urban area of an upper Midwest state. Participants for the study were sourced from a local school district serving a student population of approximately 24,000 students. Participants were composed of all secondary teachers teaching various subject matters from three out of four high schools within the same school district. Because all participants were from the same district, it allows for a focus on the training and support offered to teachers in the district seeking to incorporate blended learning into their classrooms.

Blended Learning Training Requirements

The school district where this study was held piloted teaching blended learning courses in the spring of 2019 at one of the then three high schools. The teachers who participated in the pilot had traveled to another midwestern school district that had successfully implemented blended learning to gather information and begin applying it at their school. The full-year

implementation commenced the following school year (2019-2020) with the COVID-19 pandemic disrupting education in the spring of 2020. Going forward, teachers who desired to implement blended learning were required by the district to take a course taught by one of the district instructional coaches and based on the book *Blended Learning in Action: A Practical Guide Toward Sustainable Change* by Catlin Tucker, Tiffany Wycoff, and Jason T. Green. This course has historically been taught as a hybrid with both face-to-face meetings and virtual coursework via Google Classroom.

At the time of this study, over 100 teachers had completed the district-run blended learning course. Teachers who had completed the blended learning training course through the district must also seek administrator approval to facilitate their course in a blended mode. In this district, department chairs work alongside principals to determine if a course and teacher are a good fit for offering a blended format. Beyond this training and approval, very few other guidelines have been implemented with the operation of a blended learning course in the district where this study took place.

Study Participants

It is recommended by Creswell & Poth (2018) that criterion sampling be used to select participants who have experienced the phenomenon of interest. In this study, the phenomenon of interest was teaching a blended learning course at one of the high schools within the specified school district. "For a phenomenological study, the process of collecting information involves primarily in-depth interviews… with as many as 10 individuals. The important point is to describe the meaning of the phenomenon for a small number of individuals who have experienced it" (Creswell & Poth, 2018, p. 161). Creswell and Poth (2018) also note that "Dukes (1984) recommends studying 3 to 10 participants" but some studies have included over 300

participants (p. 159). In good qualitative studies, sampling should continue until the researcher feels they have reached saturation of findings, whereby coding categories and themes are developed through the "constant comparative approach… until the new information obtained does not provide further insight…" (Creswell & Poth, 2018, p. 203). In this study, the hermeneutic circle was used to facilitate the revision and synthesis of data into themes until saturation was reached (Peoples, 2021). As such, nine interviews were conducted with no follow-up interviews needed. One focus group consisted of four teachers who participated in the individual interviews to verify the researcher's findings, revise themes if needed to fully describe participant experiences, and establish saturation. The participants' experience ranged from one to three years of implementation of blended learning in their classrooms. None of the participants had a close working or personal relationship with me at the time of the study.

Lists of teachers qualified through the district-run blended learning course to run a class in a blended format were used to determine potential participants. After removing administrators who took the course as well as teachers who no longer are with the district, 99 potential participants remained. The state-issued email was used to contact potential participants to request their participation in the research. Initially, 11 teachers responded to the email, but two teachers were not included in the study due to never having implemented blended learning after taking the training. Unfortunately, no blended teachers from the pilot high school in this district participated in the study, so the nine participants represent 3 of the 4 high schools in this district.

Instrumentation

Consenting participants were asked to set up an interview time. Interviews were conducted in person or via Zoom. The interviews lasted in length between 20-60 minutes. The Zoom application on a laptop was used to record in-person interviews with audio-only recording

on an iPhone as a backup. Follow-up interviews allow participants to verify or clarify the initial interview transcript, however clarity of statements was good from the initial interviews so no follow-up interviews were conducted. While follow-up interviews serve as a form of member checks and none were conducted, participants were offered their transcripts to review to ensure the validity of their statements. Shenton (2004) and Peoples (2021) encourage seeking clarification from the participants to establish trustworthiness in the data collection.

Following the completion of the interviews, all participants were invited to synchronous focus groups conducted via Zoom. Initially, six participants were able to participate, but illness and a scheduling conflict reduced the number to four. Therefore, the focus groups were consolidated into one group. Group norms were established and agreed upon by all participants of the focus group. Group norms include 1) participants will respect each other's time by staying on topic and being respectful of each person's right to contribute, 2) participants will respect all viewpoints, 3) all participants are encouraged to participate but can choose to not answer any question or participate in the discussion if they feel uncomfortable doing so, 4) all participant identities and information shared will remain confidential. All participants agreed to the established group norms by verbal assent.

The focus group discussion was semi-structured and based on the questions and themes from the individual interviews. Questions used during the focus group were intended to clarify topics that came up during interviews but need more explanation. Combining data from individual interviews with the focus group added credibility to the data (Peoples, 2021; Shenton, 2004).

Data Collection

While it is accepted that interviews are a strong method for collecting data in a

phenomenological study (Creswell & Poth, 2018; Merriam & Tisdell, 2016), it is also suggested that the inclusion of follow-up interviews and focus groups helps triangulate and provide rich data. In all methods of data collection, the focus on collecting the participant's lived experience was central in the development of questions. To allow participants to develop their understanding of their experiences, open-ended interview questions were used and semi-structured focus group formats were employed (Creswell & Poth, 2018; Peoples, 2021). Interview questions were intentionally aligned with the research questions for the study (Creswell & Poth, 2018). Follow-up interviews should be utilized when a gap in described experiences exists or clarification is needed (Peoples, 2021). However, in this case, follow-up interviews were not needed to clarify due to thorough initial interview answers. All questions were vetted by current blended learning teachers not included in the study as well as the dissertation committee.

The focus group was provided with descriptions of the themes that emerged from the interviews and asked questions to increase clarity and allow the researcher to verify themes. According to Shenton (2004), this process establishes dependability as well as transferability. I was the moderator of the focus group so that the confirmability of the findings was ensured.

Data Management

An important aspect of qualitative research is creating a plan for recording data (Cresswell & Poth, 2018). All data was stored on a password-protected device. Interviews were recorded using both the Zoom feature on the password-protected device and the audio recording application on a password-protected iPhone. The use of two methods of data collection ensured that if one encounters an error, the information would still be collected by the backup application. The focus group was recorded through Zoom and also included an audio recording application as a backup on a password-protected iPhone. All recorded data was labeled and

stored on the password-protected device. Transcription of the recordings was accessed through Zoom and checked for accuracy. Bracketed field notes were added to the transcription to capture body language and tone. Typed transcriptions of the audio recordings were stored in the same folder. All files were labeled with pseudonyms for participant confidentiality. After all recordings were transcribed and checked the recordings were deleted. Utilizing an instructor account for Zoom through USD, the Zoom recording was automatically uploaded to the Panopto portal. This recording was deleted immediately upon transcription to ensure participant confidentiality.

In addition to the transcribed interviews and focus groups, field notes were taken by me during each interaction. Field notes captured body language, expressions, and emotions not able to be understood through audio recordings and their transcriptions. In addition to being bracketed in the transcriptions, field notes were labeled by their corresponding interview or focus group and saved in the same folder on the password-protected device.

Data Analysis

Broadly, the analysis of data in a qualitative study aims to make sense of the text data (Creswell & Poth, 2018). More specifically, using the hermeneutic circle (Peoples, 2021), the data analysis goes through several rounds of taking apart the data and putting it back together to understand the experiences of the participants (Creswell & Poth, 2018). The analysis of the data included everything from field notes taken at the time of interviews and focus group, journaling done in conjunction with data collection to reveal personal biases, and coding and theming done after all interviews were completed. Finally, an interpretation of the meaning of the emerging themes completed the analysis.

Creswell & Poth (2018) suggest first using the transcripts of all recorded interviews along with field notes and any other data collected to complete an initial reading of the data. This first look at the data gave me a sense of the general ideas and tones of the participants. In this initial read-through, only a journal was kept of thoughts that circulated during this time. Next, during a second reading, inductive coding was used to identify significant statements and assign codes using the words that teachers used to describe their experiences. These important statements were highlighted and recorded in a Google Sheets research log. Similar statements were bracketed and sorted by codes into categories (Creswell & Poth, 2018). The categories were able to be sorted in the research log and statements belonging to the same category were read again to identify and confirm regularities in the data (Merriam & Tisdell, 2016).

Creswell & Poth (2018) state that themes that emerge should represent multiple perspectives and be supported by specific evidence and multiple quotations (p. 194). Deductive coding was used to identify themes at were congruent or incongruent with Kolb's Experiential Learning Theory. Using Kolb's Experiential Learning Theory as the lens through which to process and code participant statements helped contextualize where participants were in the evolution of their experience of implementing blended learning. This added rich context to participant statements and emerging themes. Member checks were applied as interviewees were offered the ability to review their transcripts and make edits. The essence of the experience participants had was described from the themes (Creswell & Poth, 2018) and used to guide the focus group discussion.

The hermeneutic circle continued and further explanation and meaning were sought during the focus group. Questions were chosen to gain an understanding of where gaps still exist after individual interviews. The use of open-ended questions during the focus group served to

triangulate the data. Reviewing the themes that emerged during the focus group allowed

participants to clarify and add meaning to the discovered themes. The validity of the study is

increased by employing a focus group to triangulate data and serve as a form of member

checking.

Ethical Issues

Many ethical questions exist in research today that must be addressed. To avoid ethical

concerns, recommendations from Cresswell and Poth (2018) were followed. This included

having research plans reviewed by the Institutional Review Board and informing principals in

the buildings before contacting potential participants. As suggested by Cresswell and Poth

(2018), the purpose of the study was disclosed to study participants along with procedures,

measures to maintain confidentiality, group norms, and data storage and use before participants

were asked to consent. It was made clear to all participants that participation in the study is

voluntary.

Due to the data being collected through interviews and a focus group led by a researcher

with ties to the district, it was noted that a power imbalance exists between the data collector and

the participants (Cresswell & Poth, 2018). Any potential participants with close ties to the

researcher were excluded from the study to mitigate this issue. Additionally, transparency in the

use of the data and research findings is critical. All participants were given the option to review

transcripts of their interviews to clarify statements. All participants were ensured confidentiality

through the use of pseudonyms and secure data storage. Lastly, all themes and results were

reported, including findings that may be contrary to the themes.

Trustworthiness

Shenton (2004) addresses the issue of trustworthiness in qualitative research by offering four criteria that help ensure a trustworthy study. By attending to the credibility, transferability, dependability, and confirmability of the data, qualitative research can confirm trustworthiness (Shenton, 2004).

Credibility

Credibility of a study is the attempt to ensure the study is consistent with reality, measuring the intended phenomenon accurately (Shenton, 2004). This study used well-established methods of data collection in conjunction with appropriate methods of data analysis. In this study, triangulation (Cresswell & Poth, 2018; Shenton, 2014) increased credibility using interviews, focus groups, and memoed field notes. Additionally, a wide range of informants (Shenton, 2014) involving participants from three different sites teaching various subjects was used. Participants were reminded they are not obligated to participate and if they chose to participate were encouraged to be forthcoming (Shenton, 2014). Perhaps one of the most important provisions boosting the credibility of this study is member checks (Shenton, 2014). Participants were offered the opportunity to review the transcript and themes of their interview and make amendments. Confirmation of themes through member checking also served to affirm when saturation was reached. Clarity was sought during the focus group where themes were discussed. Finally, the research and findings were subject to the scrutiny of peer review by my dissertation committee.

Transferability

Shenton (2004) notes that findings in qualitative work are typically specific to a small and explicit group of people and environments, therefore transferability is limited. However,

insights gleaned from the lived experiences of high school teachers implementing blended

learning may be similar to experiences had by other populations of teachers who have also

undergone the process of moving to a blended teaching approach. In this study, a carefully

detailed description of the study participants, data collection methods, and the district in which

the study took place allow readers of the study to determine the extent of confidence that the

results of this study are transferable. Additionally, the ample time spent in interviews and a focus

group with participants lead to rich data that will serve to support transferability.

Dependability

The ability to which a study can be replicated and expected to yield similar results is

referred to as dependability (Merriam & Tisdell, 2016; Shenton, 2004). To ensure dependability

the research design and implementation were carefully described and executed with fidelity.

Processes were reported in detail to allow future researchers to replicate the study. Shenton

(2004) suggests dependability can be strengthened by triangulation stating "This may be

achieved through the use of 'overlapping methods', such as the focus group and the individual

interview" (p. 71). Lastly, efforts were made to be reflective about the processes used and their

effectiveness.

Confirmability

The goal of confirmability is to take any necessary steps to ensure the findings of the

research are the thoughts and themes of the participants and are free of the researcher's biases

(Shenton, 2004). Every effort was made to produce objective research that was not influenced by

my preferences. Confirmability was additionally supported by the use of reflective journaling

and adherence to the hermeneutic circle, where biases were made explicit from the beginning

and revised throughout the research process. For the duration of the study, I worked to

intentionally focus on the lived experiences of the participants and address and bracket my personal biases in writing. This also serves as a portion of the "audit trail" recommended by Shenton (2004).

Summary

In this chapter, the decision to use a hermeneutical phenomenological approach to understand the lived experiences of high school teachers who have implemented blended learning was explained. The research questions, participant selection, data collection, research and interview questions, data management, and analysis were described. The procedures used and the steps taken to ensure trustworthiness were detailed.

CHAPTER 4

Findings

This phenomenological study explored the lived experiences of high school teachers who have implemented blended learning in their classrooms and illuminates teachers' perspectives regarding the ways in which blended learning is impacting the secondary teaching and learning environment. At the time of this study, it was found that most research on blended learning was focused on higher education and the student perspective. The literature lacked research studies that narrowed in on the experience of the teacher, specifically in the K-12 space, and how their experience and, thus the experience of their students, could be improved. The design of this phenomenological study included individual participant interviews and focus groups to gather qualitative data. Kolb's Experiential Learning Theory (1984) was used in analyzing the participant data. The four abilities laid out by Kolb (1984) including concrete experiences, reflective observation, abstract conceptualization, and active experimentation, were used to understand the themes developed from the interviews and focus groups. Chapter four shares these findings from interviews and focus groups of secondary teachers in this upper Midwestern school district who have implemented blended learning. The findings from this study help to shed light on how blended learning is being utilized in this upper Midwestern school district, how teachers view the purpose and best practices of blended learning, and what training and supports are most beneficial to teachers implementing blended learning.

Research Questions

1) How do secondary teachers describe their blended teaching experiences?

2) What models, techniques, tools, and activities, that allow for a difference in time, place, path, and pace, do secondary teachers implementing blended learning believe increase student engagement?

3) What training, professional learning, and resources do blended learning teachers perceive to be the most beneficial to their practice of integrating a blended teaching model?

Participant Blended Learning Training Requirements

The school district where this study was held required teachers interested in using blended learning to take a course taught by a district instructional coach based on the book *Blended Learning in Action: A Practical Guide Toward Sustainable Change* by Catlin Tucker, Tiffany Wycoff, and Jason T. Green. This course has historically been taught as a hybrid with both face-to-face meetings and virtual coursework via Google Classroom. Over 100 teachers have completed the district-run blended learning course. Teachers who have completed the blended learning training course through the district must also seek administrator approval to facilitate their course in a blended mode. Not all courses are approved to run a blended learning format. In this district, department chairs work alongside principals to determine if a course and teacher are a good fit for offering a blended format. Beyond this training and approval, very few other guidelines have been implemented for the operation of a blended learning course in the district where this study took place.

Participant Demographic Information

It is recommended by Creswell & Poth (2018) that criterion sampling be used to select participants who have experienced the phenomenon of interest. Of the 99 teachers still teaching in this district who have taken the course, 27 teachers are male and 72 teachers are female. While

many teachers have moved schools recently due to the opening of a new high school within the district, presently of those who have taken the blended learning course, 15 teach at school A, 40 teach at school B, 12 teach at school C, and 32 teach at school D which did not have any participants in this study. Nine participants who had experienced the phenomenon of implementing blended learning in their high school classrooms of this upper Midwestern school district agreed to participate. Eight participants were currently using blended learning in their classrooms, one participant had used blended learning in the past. All of the participants were female. Three participants taught at school A, five at school B, and 1 at school C. A fourth school in the district (school D) where blended learning was originally piloted did not have any teachers come forward to participate in this study. It is suggested by Shenton (2004) that a carefully detailed description of the study participants, data collection methods, and the district in which the study took place allows readers of the study to determine the extent of confidence that the results of this study are transferable. Below, Table 1 offers additional demographic information about the participants and the schools in which they teach.

Table 1

Participant Demographic Data

Name (Pseudonym)	Age Range	Years in Education	School Taught At	School Student Population
Katheryn	40-50	25	School A	1,898
Kendall	50-60	25	School B	1,505
Laura	30-40	11	School A	1,898
Jamie	20-30	2	School B	1,505
Tamara	20-30	3	School B	1,505
Krista	40-50	22	School A	1,898
Melissa	60-70	35	School C	1,803
Charlotte	40-50	28	School B	1,505
Penny	30-40	11	School B	1,505

Table 1 displays demographic data for the study participants.

The majority of participants had between 10-25 years of teaching experience but included two teachers very early in their careers (less than three years of teaching experience) and one teacher near the end of her career (35 years in the teaching profession). The participants' experience with blended learning included teachers in their first year of implementation through teachers in their third year of blended learning as well as one teacher who taught blended for one year before her building decided to end the practice.

Participant Profiles

The following are demographic profiles highlighting important information about each of the study participants.

Katheryn

Katheryn is in her 25th year of teaching and 22nd at school A which serves approximately 1,898 students. Katheryn began her teaching career in another school district nearby, but after three years came back to school A where she had previously student taught. She has taught most subjects offered in the 9-12 English curriculum, but currently teaches Contemporary Literature, Teacher Pathways, and AP English Literature and Composition. Katheryn was interviewed in-person in her classroom and originally agreed to attend a focus group via Zoom, however, she was sick the day of the focus group and was unable to make another day work.

Kendall

Kendall is 53 years old and in her 25th year in education. Kendall's teaching history is diverse. She has taught in varying capacities in several areas of the country. From tutoring at homeless shelters contracted through the local school district to traditional classroom teaching, she has served four school districts. She has taught classrooms of Language Arts and English for grades 6-12 as well as in-person and online tutoring programs for English, Reading, and

Attention Span/ADHD. She currently teaches Sheltered English I and English II at school B serving approximately 1,505 students where she is in her second year. Kendall's interview was via Zoom where she was in her classroom and I was in a small conference room in a different building. She was unable to join a focus group.

Laura

Laura is 34 years old and in her 11th year of teaching, all at school A serving approximately 1,898 students. Laura currently teaches Speech, Journalism, and Newspaper. Laura's interview was in-person in a small conference room off the library in her school. She attended a focus group via Zoom.

Jamie

Jamie is in her 2nd year of teaching, both for the same district, but she moved from school C to school B where the population includes 1,505 students. She is 23 years old. She currently teaches Sheltered Algebra I, Accelerated PreCalculus, and a section of course recovery called Academic Village. Jamie's interview was held in-person in her classroom. She attended a focus group via Zoom.

Tamara

Tamara is 24 years old and in her 3rd year of teaching. She currently teaches to a population of 1,505 students at school B, but like Jamie, she started her career at school C. She is teaching Investigative Algebra 1, Accelerated PreCalculus, and AP Statistics. Her interview was conducted via Zoom while she was at home and I was as well. Tamara was unable to join a focus group.

Krista

Krista teaches Geometry and College Prep Math at school A serving approximately 1,898 students. She is 45 years old and has been teaching for 22 years. She has served in three different school districts. Her first year was at a mid-sized rural school followed by four years in a very small, rural school. She then came to school A and has been there for 17 years. Her interview was held in-person in her classroom. She attended a focus group via Zoom.

Melissa

Melissa is 61 years old and in her 35th year of teaching. She has served in five school districts, the past 19 years being this upper Midwest district she currently teaches in. She is the only participant from school C where the population of students is approximately 1,803. She currently teaches English III, British Literature, and World Literature. Her interview was conducted in-person in her classroom. She attended a focus group via Zoom.

Charlotte

Charlotte is 49 years old and in her 28th year of teaching for this upper Midwest school district. She spent the first 26 years at school C and is in her second year at school B with a student population of 1,505. She is currently teaching Sheltered Biology, Biology, and Teacher Pathways. The interview with Charlotte was conducted in-person in her classroom. She was unable to attend a focus group.

Penny

Penny is 36 years old. She is in her 11th of teaching in the same upper Midwest school district. She is in her second year at school B with a student population of 1,505. The previous school she taught at within the district was a non-traditional high school that now exists within the newly built school B. She teaches Photography I, Graphics, and Advanced Graphics. Penny's

interview was completed in-person in her classroom. She was originally going to participate in a focus group via Zoom but when the date needed to change due to other participants not being able to attend she was unable to make an alternate date work.

Findings

Throughout the data collection and analysis, several themes of blended learning emerged. The four themes that emerged from the teacher perspective include *training, tools, & time; differentiation & fostering autonomy; in-building support; and what success looks like*. These themes are shown in Figure 4.

Figure 4

Themes of Implementing Blended Learning
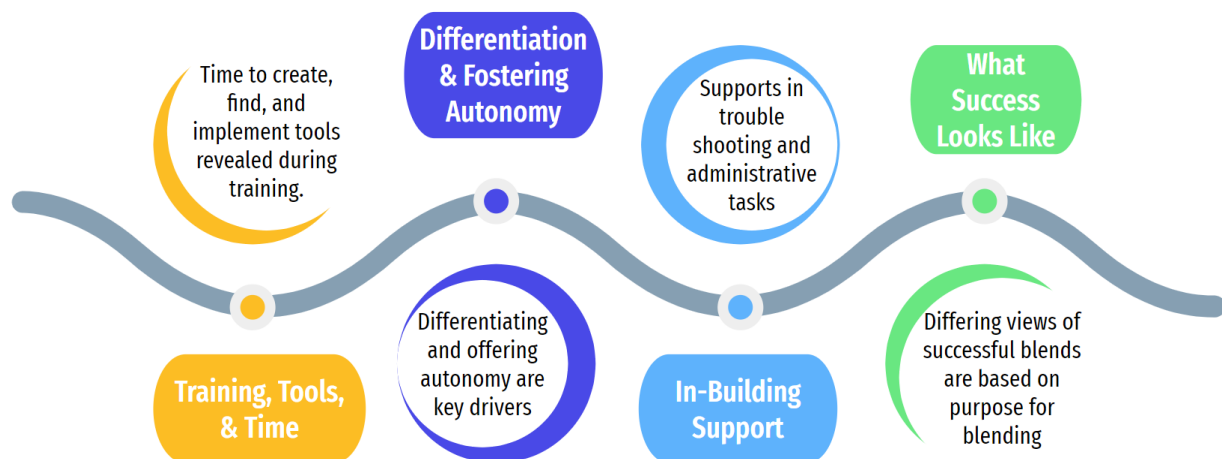
Training, Tools, & Time

Each of the participants mentioned that the training they received gave useful guidance in constructing a blended course. The tools discussed during the training were familiar to all participants and widely used by most. While the training was deemed helpful overall, several participants stated that the time the training was offered was inconvenient and that going forward

time to create, collaborate with other blended teachers, and even potential for future trainings were important to them. These experiences combined to form a revolving theme of training, tools, & time (see Appendix E for significant statements) that seem to influence the experience of a blended learning teacher in this upper Midwest school district.

Training. Each of the nine participants received the same training through a Blended Learning Red Apple course offered by the district in which they teach, a requirement in order to offer their course in a blended format. The course was taught by a district instructional coach in a hybrid format including both face-to-face meetings and online discussions. The course has been offered in the summer and several respondents noted the timing of the course as a hurdle preventing more teachers from pursuing blended learning. Laura says, "I think the biggest part that held me back was there's a course that you have to take and that's offered in the summer. So it's a four-week course and you have to take it to be able to offer your classes blended". Katheryn stated, "I think that is the thing that teachers are like 'I don't want to do one more thing' (take the BL Red Apple course). There's resistance in that way. I don't want to do one more thing". Kendall added: "Well, it's not any fault of the people who run it, but I would like to see it offered more than once a year. So I would just like to see more frequent training offered so more teachers could get on board". At the time of this research, the course was being offered during a spring session in addition to the traditional summer session. In the past the course has had a waitlist, effectively preventing some teachers from receiving the training that would allow them to practice blended learning in their classrooms. Offering another session is a movement toward remedying the supply and demand issue.

One participant, Laura, lamented that she is not being allowed to offer her Speech class in a blended format because the other Speech teacher hasn't taken the blended learning course and

is therefore not offering his section of Speech in a blended format. Their building determined that it would be better to offer the course in one format (either blended or traditional) for consistency, registration, and equity. She mentioned that the other teacher is going to take the course, but that in the past teachers who may have been waitlisted and not been able to take it may have held back their collaborative group from being able to offer courses in a blended format. Tamara agreed, "I think offering it more just because I heard some teachers tried to take it in the summer, and the class caps at like 30 or something like that. I feel like they should definitely offer it in the fall, even in October or November if people wanted to start implementing it second semester".

In addition to the Blended Learning Red Apple course, teachers were asked about any additional training they had received and unanimously replied that they had not received any additional formal training in either the tools of blended learning or classroom technologies. "You know, we never got any training on Zooms, or Flipgrid, or Google Classroom, anything like that. So it's all been mostly learned by myself," Laura said. Penny adds that "I can't say I got any beneficial digital training specifically for teaching". A few participants have sought additional support through books, Facebook groups, and blogs about blended learning. Katheryn shared her journey for more training: "And it was after that (Red Apple) training that I purchased that second one (Catlin Tucker book) and I've also been involved in conversations online through a Facebook group. The AP Literature and Composition Facebook group that I'm in discusses blended at times". Kendall also reported turning to Facebook to find additional training and joining a group called the Modern Classroom Project (MCP) on Facebook. "And teachers who do blended all over the country collaborate through this group. I learned a lot, I didn't necessarily

learn the technology from them, but I learned what technology would be helpful and then I went and learned the technology on my own".

Following up on helpful pieces of training, Melissa suggested the district add training for those who have now done a course blended and would like to evolve their practice further:

I suspect, too, that there just should be more training, period. Because it's kind of, to me it was as if, all right, we had our first introductory class in the Red Apple, we should be ready for another one now of maybe more advanced ideas, more troubleshooting. I'd like to hear nationally and internationally how other schools are using this. What do they do?

The theme of teachers seeking out their own training and support permeated the interviews. These are powerful examples of Kolb's Experiential Learning Theory (1984) where teachers are creating new knowledge and understanding through the reflection of their concrete experiences.

When asked about what training has been the most beneficial, several participants mentioned the informal training of being able to collaborate with experienced blended learning teachers. Krista said the most beneficial training was learning from "other teachers that are currently doing it". Jamie shared "I think it's nice to talk to other teachers that are doing blended. I have a colleague that we teach the same class so we use our collaboration time to come up with station activities or extension assignments that we can both do". She goes on to state that the collaboration aspect of being able to work with another teacher who is also teaching blended is really nice. And Krista summarized what we have found to be a core issue with the ambiguity of blended learning, pointing out that "I feel like there are just so many different ways to do it that it was really helpful to either see other people's ways or, you know, hear about it from somebody that you actually work with".

Tools. Participants shared the tools they consider essential in implementing blended

learning, all mentioning the use of a Learning Management System, in most cases Google

Classroom. Tamara shared that "I use Google Classroom to indicate to the students when they

have blended and if they qualify or not. And then that's where I post their blended assignment

for them". Jamie agrees, saying she is "using Google Classroom to check on who an assignment

goes out to, so that's really helpful to both notify and give instructions". Charlotte and Melissa

concur with the benefits of having a Learning Management System like Google Classroom to aid

in implementing blended learning sharing respectively: "Google Classroom is a beautiful thing",

and "I adore Google Classroom".

The functionality of an LMS such as Google Classroom was noted often from

communication with students on expectations to facilitating discussions and other student work.

Laura felt strongly that there are benefits to student discussions being conducted online,

including the ability to take extra processing time and deepen their responses. She says,

> So there's a spot on Google Classroom where you can do discussions and kids can create
>
> a discussion and then reply. I've noticed that it is kind of nice to have because then they
>
> can think a little bit more deeply and use more of the vocab that's involved with the
>
> content because they have time while sitting and typing out their responses. And so the
>
> discussions seem to be really developed and more useful to students.

Additional technologies that were mentioned as helpful in a blended classroom include Flipgrid,

Google Slides, Screencastify, Quizizz, Formative, ALEKS, Google Meet, and Chromebooks.

Most teachers stated that they used many of these technologies prior to teaching in a blended

format, but that they become more vital as you offer students more autonomy. It was the specific

models of blended learning that altered the classrooms the most. Among the most utilized

models were the station rotation, playlist, and flipped classroom models. Additionally, the use of choice boards and various extension activities for students utilizing blended days outside the classroom were frequently mentioned.

Many teachers mentioned recording videos or posting content videos they found to their LMS for students to watch outside of the classroom. Utilizing a flipped classroom model allowed for passive learning to occur on their own and active learning to happen in the classroom. "I guess the flipped model is probably the one I use the most, especially with discussions and having students view a video outside of class and then coming in and having group discussions" Laura shared. She continues to report how vital having a platform like Google Classroom is to facilitating models like a flipped classroom for its ability to post videos, host discussions, and generally communicate with students. Melissa shared how she now thinks about these types of assignments from the student perspective, trying to identify what they need her for and what they can do on their own. Melissa says, "you know, in class you're there to clarify and kind of go over it or show them this or that. I felt my communication had to be more direct and very clear".

The station rotation model emerged as the most widely used, "station rotations and whole class rotations are two things that came from her (Catlin Tucker) that I use every day and adore" says Kendall. The various purposes for using each model, like station rotation became evident in the participant interviews. Jamie explained how and why she runs stations regularly in her room, "I do stations in my room as a review tool". Other teachers define how they lay out the stations to have individual workstations, collaborative workstations, stations for learning new material and stations for processing or practicing, and stations for one-on-one or small group interventions with the teacher. Krista, on the other hand, shared that "I had one really bad experience and one really good experience, and the others have been just blah". In flushing that

thought out, Krista pointed back to several of the other themes such as more training to help

support her practice and troubleshooting when models or activities don't go well, and additional

time to collaborate, create, and learn.

Time. A common thread through each interview answer and theme was time. From the

time to take the Blended Learning Red Apple course to the time to plan, create or find, and

implement these tools of blended learning was mentioned by all participants in some capacity.

"One negative I did think about as we're talking is the time that it takes to create stuff" Katheryn

lamented. Laura added, "there's just a lot of things in the beginning that you have to get set up

and organized so that it goes smoothly. You can't really do things last minute when you are a

blended teacher". And even after teaching blended, it can be hard to fully implement,

"unfortunately I just feel like I don't have the time to really dive into it as much as I want to"

Krista said. Kendall added, "I would love to have more planning or collaboration time for the

units".

While station rotation was the most widely used model, participants also pointed out it

can be the most time-consuming to prepare. Jamie says "a station activity takes a lot of work to

prep… it helps to have a colleague that does a similar activity". Again, touching on the

advantages of having other teachers who teach your subject to share the load of preparing and

creating for blended emerged. "Having it implemented with others in my PLC, at least for Pre-

Calc we both do blended on the same days and that is so helpful, especially for sharing the

workload of a station rotation model. It takes a lot more prep work beforehand and so being able

to split that up with other people is helpful" Tamara points out.

When offering students more autonomy, participants felt that they needed to be well-

prepared ahead of the students with resources organized to support students as they learn

independently at times. Melissa took the time to create or prepare many resources for students as they worked independently on essay writing, "I think I also prepared more resources like models of essays or links to background information. I know I made a big list of transition ideas for sentence patterns. I guess I tried to give them more tools that they would have at their fingertips". Additionally, Kendall chose to utilize a flipped classroom and moved much of her instruction onto videos that can be watched by her students at any time or place. But the upfront work of this was astronomical, "creating those videos took time over the summer or the weekends or evening or whatever" Kendall shared. The price of well-implemented blended models most certainly includes the element of time.

Several participants also complained that administrative tasks such as taking attendance for students utilizing blended outside of the classroom were a chore that consumed more time that it should. "Attendance takes me half an hour" Penny stated. Tamara explained the process, "more work for taking attendance because you have to wait 15 minutes for them to sign in, then if they don't they are marked absent. Paying attention to the timestamps and getting it marked in Infinite Campus". These participants agreed that there are reasons for taking attendance and having accountability for students under their care, but feel there should be a method that doesn't consume as much time. One suggestion was to have a button on Infinite Campus for 'Blended Learning' to indicate to the administrative staff that the student was gone due to qualifying for blended, then students that did not qualify would simply be marked absent, indicating if not approved by their guardian that this was a skip. Overall, the blended learning system is still new in most buildings and participants felt there was room to grow in this area.

Differentiation and Fostering Autonomy

Participants shared openly about their own personal journies of dismantling years of beliefs about what learning looks like (see Appendix F for significant statements). Participants often found themselves on parallel paths as their students as they both learned to handle learning in new ways, often apart from one another. "I guess for me, I feel like for years and years and years my classroom looked too much like the classroom I was in when I was a teenager" Melissa shared. The evolution of both teacher and student understandings about how learning takes place was another example of Kolb's Experiential Learning Theory (1984) whereby both teachers and students are reflecting on their experience in the classroom and out as an active experiment that is reconstructing those understandings about how learning occurs. Charlotte admitted that "it was probably November by the time I finally had the guts enough to say 'I'm gonna let you not be present and we're all gonna learn'". It would be remiss to not acknowledge the element of bravery it takes for a teacher to try something, anything, new. Melissa shared passionately,

> I think that freedom was really good for them (students). And maybe while some adults are fearful of giving them freedom, mostly I think kids handle it well because it seems like the kids I have, they're sort of like 'finally, somebody trusts me to get this done on my own'

Having trust in yourself as well as your students was something that came through in teacher, building, and district policies regarding blended learning.

Fostering Autonomy. For each building, parameters were set for how students would be allowed to earn any blended time that is outside of the classroom. Most buildings set general parameters of having an 80% in the class with no missing work as the baseline and teachers could add any additional requirements of their own. Kendall explained some of the additional

requirements to earn blended that she says have led to a positive classroom culture: "for me, students have to be respectful, responsible, and ready in the classroom in order to qualify for blended. So because of that, they know if they are not doing work or they're being rude or they're distracting their peers, I'm just gonna pull their name off the eligibility board and then they'll have to come to class during blended days". Many participants noted similar residual effects of implementing blended learning such as life skills that their students are learning. Students are having to show responsibility in their behavior, manage their time, and communicate effectively both to earn blended and to work independently during blended learning days outside the classroom. Krista states "I think that's great for them to learn that responsibility or time management even". Melissa was excited for her English III students who generally aren't given as many opportunities to have autonomy in their learning. She says "I think for some of them they were just amazed that they had autonomy, that somebody wasn't telling them 'all right, this is the structure you're following'". That population of students that aren't taking college-level work, but are through blended being afforded the trust and responsibility of a college student, could open their eyes to what they are capable of, Melissa thinks.

Many participants alluded to the self-realization that students go through as they learn how to make choices that are best for their learning. Krista states, "I also think that some of them realize what does work or doesn't work when doing homework. Some kids are like 'okay, I have to do it when I'm sitting in your room because when I have my blended day, I won't do it'". Whereas other students need the time to process information and can work outside of school, Krista believes that giving students the choice allows them to develop those vital skills. "Just the fact that they have that option allows them to sort of learn about how they learn or what works

best for each of them," she says. "And sometimes students who have earned the blended day come to the classroom so they can get more one-on-one attention on their assignments also" Kendall shared and Krista agreed. Melissa feels that "kids need to learn how to function as adult learners or learners for life. And sometimes I feel like the school setting acts like we have to help them with all of their learning". Penny's statement "just kind of building that agency in them to see 'oh, I can be a learner without having to have a teacher'" is a powerful reflection of the shift blended learning is having on the roles of both teachers and students.

Determining what learning to blend was the connection between autonomy and differentiation. Several participants expressed the thought process of 'what do they need me for and what can they do independent of me' when deciding what and how to blend in their classrooms. Katheryn says "I try to think about what I'm needed for and how I'm needed during that time. And so sometimes students don't need me at all, and that's a good thing, right?". Laura shares that "I've had to think a little bit more specifically about the skills that they're learning, and whether or not they can be taught electronically. Do they need to be in class or can it be done outside of class?". She also shares that making materials for her curriculum that would work without her presence helped her to "see a different side of the kids. They seemed more mature and I felt like when they were handed this responsibility they were really good at it". Charlotte agrees as she says she chooses blended when "I know that they're probably not gonna need a whole lot of direct instruction from me in order to be able to do it". Katheryn goes on to say that using blended "I'm allowed to have the freedom, and my students have the freedom to individualize instruction". Kendall and Tamara both add students are given a "choice of time and place on blended days" in their blended classes.

Differentiation. A key motivator for many participants in pursuing blended learning was to help them differentiate in their classroom. "I was always struggling to find ways to individualize education (before teaching blended)" Katheryn shares. And since making the switch, she points to two goals for her blended class:

> One of them is to address students who are struggling with the skills or content in some way and that is a kind of way to individualize instruction. And one is to offer specific topics that may be of interest, and are related, but not necessarily part of what we do in the classroom.

This model of reaching both struggling and high-achieving students was mentioned by participants often.

Few participants have regularly scheduled blended days, opting to choose to blend when it works in the curriculum or is advantageous. "I blend when it serves me and my students", says Katheryn. Katheryn goes on to share, "I would say that's more typical of my blended learning instruction, is that it's targeting skills that need re-teaching or additional practice for students with teacher guidance". Tamara has a similar approach, "I do it a lot of times after a big lesson… I'll keep students in the classroom who aren't showing mastery on formatives or haven't been doing the classroom work or maybe were gone and need reteaching. I'll group them based on what they need and they can help each other and I can bounce from table to table". Krista echos that "there's a lot of times where I'll just pull up a chair and sit beside a kid I know is struggling and I'll get a lot more one-on-one time with them" on blended days when there are fewer students in the classroom.

Jamie says she chooses to have blended days in place of typical review days where students who are doing well can do extensions to push them beyond the general curriculum, and

students who are behind or struggling have time for interventions with her. However, she says "if 90% of my class qualifies for blended I may choose to do a stations activity in class rather than doing a blended day because I don't have as many students who need interventions with me". Jamie says she prefers blended when "I want to offer another resource in my classroom to supplement both my lower students and my higher students".

The outcome of blended days in Charlotte's classroom is "to enhance the learning of the ones that are out of my classroom, but if the ones that are here working their butts off don't get to it, it doesn't negatively affect them". She appreciates the time and place but mostly the pace afforded her to her students when she offers blended days, "just allowing kids to absorb, process the information at their own speed". Katheryn's approach is similar, "a lot of times a blended day is independent and at the same time I can be working with a small group who needs extra attention". Each of these participants is utilizing blended to offer a more differentiated level of instruction in their classrooms.

On the other hand, for a class like Penny's Photography class, she also is utilizing blended when it works in the curriculum, but less for intervention and more to accommodate for resources. "Half the class is going to go blend and take their notes while the other half is using the cameras to take photos. So then I'm working with four groups instead of eight groups on getting their photos done" Penny explains.

One potential negative of blended learning that was mentioned by several participants was how blending and differentiating can affect the classroom community. By dividing students into groups that can or can't blend, understand or don't understand the material, you are losing some of the benefits of building capacity through shared learning. Katheryn points out "maybe the negative is that level of classroom community needs to be in balance or considered".

Additionally, several participants mentioned not getting to know some of the students as well. Krista says, "I feel like some of the kids you don't get to know as well just because they take their blended and are not with you every single day necessarily". When or how often to use a blended day, how it is designed, and who participates are primary considerations for these participants that have many consequences.

In-Building Support

The theme of in-building support includes the subthemes of the purpose of blended learning, communication, attendance procedures, and professional learning communities (see Appendix G for significant statements). The ambiguous nature of blended learning was again apparent as the administration, teachers, and students all grappled with the purpose of blended learning and how to communicate that while still allowing for teacher autonomy. Jamie lamented that "I wish there was a building-wide foundation of what blended should be and how we should use it so that our students are also on the same page". Teachers from building A expressed the least amount of concern for how blended is being implemented, and it is worth noting that is the only building offering a monthly, optional, professional learning community for blended teachers.

Purpose of Blended Learning. Throughout the interviews, varying purposes for using blended learning emerged. While many participants leaned toward differentiation and specifically remediation for struggling students, others took a different perspective. While there can be many approaches that serve students, participants expressed frustration that the messaging from the administration was unclear, and thus teachers and students alike felt uncertain of expectations. Jamie's statement was a common sentiment for many participants:

What I've noticed is that certain teachers use it not in the same way. So then students are also recognizing it being used in a different way instead of for intervention like they're using it as work time. And so then my students feel like during a review day they should have blended just because it's not a teacher-based activity.

Charlotte agreed stating, "It needs to have a purpose, not just an extra planning period (for the teacher)". Charlotte explained that she has walked by rooms on blended days without any students present and that was frustrating because she believes "the purpose of blended is for you to give support to students that need it". She shared that in building B they are allowed to offer up to two days per week blended, and many teachers maximize that. So that comes to approximately 36 days that students are outside of the classroom. If those days aren't purposeful with enrichment activities and student learning, then "blended loses its magic and it gets kids to use it to plot against other teachers (who are using those days purposefully)" Charlotte says.

Tamara adds to the conversation about the purpose of blended saying, "one of the issues I'm currently having with blended right now is that not everyone in the school has the same expectations for implementing it". She, like Charlotte and Jamie, teaches at school B and has noticed that several teachers use blended as a "freebie day". She goes on to share how this has given students a misrepresented idea of blended, "and so when I have the expectation that you need to be doing work when you qualify for blended and you choose to be outside of the classroom, it seems ridiculous to them even though that is the point of blended". Tamara shared that she "does blended when it's indicated that there are students here who need more supports and if we're all showing mastery we don't need that intervention time and we're gonna keep moving on and learning new content". She believes "if everyone in the school was implementing

blended in the same way, the way we were taught, yes it would be highly successful as there'd be common expectations… but that's not currently happening".

Penny, also at building B, agrees that the administration could have more of a hand in understanding how blended is being implemented in their building. "No one has ever asked me how I'm using it," she says. While Penny doesn't believe that remediation was portrayed as the sole purpose of blended during their training, she promotes coming together and building that understanding of purpose together, "I feel like there's a lot of learning that could happen through an understanding of what is happening and developing a culture around it". Charlotte suggests the administration could promote a purpose by asking teachers to give a quick snapshot of the progress made during a blended day to avoid it being a "freebie day". Tamara agrees and said, "I wish that it was maybe checked in on more when you have a blended day, like what were the expectations for you and your students?". And even at building A, Krista says "I feel like not just everybody at the school, but even different schools have different definitions of blended learning" despite all receiving the same training.

Communication. There are several layers to the communication component that need to be present in order to have successful blended learning according to the participants. Kendall argues that it starts with the administration, "if you don't have an administration that understands what you're doing that can really sabotage blended learning".

Jamie agreed that communication of expectations is key, saying "the misinterpretation between different teachers in a building about the base guidelines or foundation" of how to run a blended learning course can cause problems. In addition to differences in how admin, teachers, and even students interpret blended, Laura points out that communication with parents cannot be overlooked. "I guess also just making sure parents are educated on what blended is and what the

expectations are of students when they are not in the classroom". Overall, each participant noted at some point the elevated level of communication necessary between all parties in order to make blended learning successful.

Katheryn, who teaches at building A, shared how common expectations, support by building administration, and communication have been vital to the success of their blended learning classes:

> I think that building support is key. I think it's key to have a system in place where everybody has the same verbiage for all of the communication. We have the same logistics. When our students sign out in that Google Form it populates to the same big spreadsheet and they each have a tab at the bottom, so it's really well organized. Our admin did all of that so we didn't have to worry about any of it.

Katheryn alluding to some of the administrative tasks that have helped to make blended learning easier for teachers to adopt is another element that many participants noted.

Attendance Procedures. Among the most frustrating and time-consuming tasks that participants brought up was tracking attendance. Already noted by some participants that tracking attendance has been known to take up to 20-30 minutes, even with systems in place, Krista adds that "attendance might be a little clearer. Streamlining of systems of communications on that would help".

The issues arise when students who haven't earned blended do not come to class. "My students like to think that blended is a right, not a privilege. So they just continually ask and if they don't qualify they might skip just because they think they should qualify", Jamie says. Kendall has experienced the same, saying "there are some kids who don't come to school on blended when they didn't qualify". Charlotte agrees that even with a sign-out system through

Google Forms it is still a lot of work for her to check up on students to make sure they are where they are supposed to be. And when she finds a discrepancy, it is on her to report it to the administration. "I wish there was an easier way for me to know if a kid is checking out of the building because my end is making sure they did the work. My end is not checking to make sure that they checked in at the right time and place". While most teachers agree that the effort is necessary to preserve the fidelity of blended learning, this type of administrative work is taking valuable time away from working directly with students.

Several participants suggested making options in the district's attendance system, Infinite Campus, to make coding and tracking blended days easier. Krista advocates for this as well as having it denoted on a student's schedule when they have blended so if they don't show up for their next class it is clear they are abusing the privilege of an open campus. Penny agrees stating plainly, "there are no options for blended in Infinite Campus, but that would be huge". Katheryn summed up the evolution of working through these administrative tasks in her building saying "if teachers don't have the support and a system in place for tracking student attendance, I can see where that would be a problem. But we're fortunate because there's a cadre of blended learning teachers here at building A and we meet monthly to work through these issues".

Professional Learning Communities. Regardless of what building the participant taught in, the need for collegial support was expressed by all. Building A offers a monthly optional PLC for blended teachers run by an administrator. They discuss ideas, troubleshoot issues, and generally work to support each other and stay on the same page, and as Katheryn noted, that support has been very beneficial. "Yeah, these blended learning teachers come together monthly and our head principal leads the discussion of what needs to be touched on after and beyond the training" Katheryn shares. Krista also mentioned those meetings and expresses that she wishes

she would have known more about blended earlier suggesting maybe having these meetings opened up to other teachers to give them an idea of what blended is about. "I feel like if I would've known some of those things before I took the summer class, I think I would've been even more on board just hearing from other teachers ahead of time," says Krista.

Kendall agrees that one of the best pieces of 'training' she has received is the continued building support stating "administrative support for blended learning in general, the fact that our school is so supportive and helpful with it". Krista says "I would definitely say you wouldn't want to go into this without any other guidance. You would want somebody else either at your school or that you can closely communicate with to bounce ideas off of and so forth". Melissa adds "I think we've proven in this district how important collaboration is, and so we need it for this program too". Laura also believes in the value of collaboration as she shares, "just having that support group that has been doing it for at least a year, or they're new to this and you're working through things together".

Charlotte's building does not host a blended learning PLC, but she still agrees with the value of learning with and from colleagues. She says "lunchtime conversations with other people that are using blended, that the kind of professional development we have". Melissa's building only ran blended classes briefly (she thinks only for one year) and is no longer allowing teachers to run classes in a blended format. She remembers feeling isolated as one of the only teachers utilizing blended strategies and in reflecting feels strongly that having the ability to collaborate with others is vital to success, "you can't be alone in it". She said very passionately that "this building in particular, I just think we need to get behind blended and not be afraid of it because I think it would be great for kids". Katheryn offers that blended learning is easier when done with

the support of others, "when we have a community just like our students when we have a community that we are active in and then feel supported in then it is engaging and encouraging".

What Success Looks Like

While participants were not directly asked what they believed made a blend successful, they often spoke of the outcomes of their blended experience that made the process worthwhile and felt like a win. The ideas of increased motivation, fewer failures, engagement, and autonomy surfaced again through the lens of course outcomes. Through those subthemes, several ancillary concepts were noted including how blended learning fosters fewer behavior issues, deeper trust, strong collaboration, and strengthing of life skills like time management and accountability, along with more student learning. Overall, participants each had different views of what success looks like based on their goals for their classroom, however, each participant felt that blended was a positive instructional choice (see Appendix H for significant statements).

Motivation. All participants mentioned how prepared they needed to be with content in order to give students autonomy over time, place, path, and pace. Being planned ahead, having both extension and remediation activities ready to go, and being able to communicate expectations to students well in advance is necessary for a blended course to run successfully. A by-product of that, according to Krista, is that students knew what to expect and that motivated them. "The more information I can give them the more ready they are to come in on that day and do what needs to be done, get the information they need. Then they know if they complete that, they will get blended when it happens" she said. Jamie and Laura agree, Laura said "it's an incentive for kids to get their work done and make sure it's done on time" while Jamie added, "throughout the building, it's been a big motivator for students to keep their grades up to qualify for that". Charlotte has noticed that students seem motivated by the prospect of earning a blended

day stating that for students, "it feels special". Similarly, Katheryn shared, "it really incentivizes them to do their very best work the whole time so that they can qualify for blended". Krista concurs that there is an element of motivation due to having to earn blended days, "They don't want to be somebody who can't have blended" she says.

But Tamara points out that incentivizing blended doesn't motivate all students. She says, "for some kids who just consistently get D's and know they won't qualify and so that doesn't really motivate them. And I had one who didn't meet the expectations for it and she cried the whole period because she was so embarrassed". Charlotte says at times even high-achieving students didn't qualify because "some of them get a little cocky and they don't turn stuff in and then they don't earn blended. They come in with their tail between their legs, but it's good for them to have that time because some of them are just so busy because they are involved and miss class". Krista agrees that earning time outside the classroom doesn't motivate everyone, "for the kid who doesn't care, you can't do anything to make them care. They don't care if they have the lowest score, and they don't care if they don't get blended". In these cases, participants mentioned how added time with certain students who don't earn blended can aid in fostering those relationships. Charlotte found that the student's behavior was a positive byproduct of blended, stating "I feel like the relationship is better because they see that I see them as somebody that can do this. Like, I trust you enough to let you go and not ruin that trust". Melissa agreed, "that year with my two blended classes I had zero discipline issues. That year just seemed so much less stressful and especially with student management or behavior management because I think the students felt like 'she trusts us to manage ourselves'".

Fewer Failures. Charlotte offered a great reminder that not earning blended was often the best thing for a student, "the magic that happened with the people that stayed with me is why

I'm a believer". Kendall's experience is similar as she shares "none of the students who come to my classes are failing because they have those blended days to come and get individual attention on what it is they were missing". Melissa also found her pass rates increased with blended, "I had only one person who didn't turn things in and therefore did poorly. And that was one person in three sections, so that was a very good rate".

Even moving students that were otherwise average or low-average achievers up to the 80% needed to qualify for blended meant they were going that extra mile and putting a little more effort into every assignment, many participants shared. Penny noted that "I would say I have a lot more B students than I do C and D students because our threshold is 80% to qualify for blended".

Engagement. All participants mentioned an increased level of engagement in various ways. Both in-person and remotely or virtually, students are learning to rely on each other and themselves more as teachers make learning more student-led. Jamie's statement was echoed by many participants when she shared,

> I think in terms of when they're working collaboratively, they're so much more engaged because they have to be. If their partner, for example, doesn't understand they have to explain to their partner how to do it which not only helps their partner but engages them in their learning more.

Krista feels these skills are beneficial to everyone and help to build a community of learners, "they learn how to help each other because if I'm one-on-one with a student and these kids on the other side of the room need help, they seek out somebody else in the room".

Specific models of blended, like station rotation, seemed to emerge as a favorite for exactly this reason. Melissa shared, "the rotating stations were wonderful because they really got

kids up and moving. They were doing something different at every station, I think they were just much more engaged". Tamara also found the station rotation model to increase student collaboration and engagement. "I think that one (station rotation model) is really successful in getting them to be working with each other and doing a variety of activities. I've even noticed them saying the class flew by and they had not realized they did a ton of problems", says Tamara. Kendall loves that the station rotation model allows her to interact with every kid in the room, something that was rare with traditional teaching.

And of course, there is the special benefit of engaging students who need more individual attention on a blended day. "So those students who prefer those smaller group environments, they really succeed on the blended days where students can be in or out of the classroom, so that's nice for them" Tamara shares. Penny, who most often uses blended to work with smaller groups in her Photography class says "that's what I really like about blended, that I can make the big feel small". Kendall likes that blended motivates her students, but also that it allows her to give them individual attention. Charlotte has found this to be the biggest benefit of blended, saying that it allows her to sit one-on-one with a student who is struggling for any number of reasons and have those private conversations and interventions without 30 other students around. Kendall finds that in that smaller environment, "they're motivated and blended gives me the time to give them individual attention". Knowing that blended is still in its infancy in this district, Kendall shares that "it has been a wonderful surprise that it has been so effective".

Autonomy. Transitioning to a more student-led classroom where choice is given to the learners is a trademark of blended learning. Laura's statement about the surprising outcomes of teaching blended is inspiring:

They take pride in their learning because they feel like I'm giving them a little bit more

responsibility. I know that might sound a little bit silly, but you're treating them more

like an adult so they feel like they need to take initiative.

Melissa agrees that education is moving away from being teacher-led and instructing every

minute, "I think that's totally wrong. When these kids were given responsibility, they stepped up

for it". She feels that if they are treated like adults they will respond with more adult behavior.

Jamie likes the accountability that comes with blended, sharing "I think a lot of blended

strategies hold them more accountable". That increased level of accountability, whether

collaboratively or individually was brought up previously, but extends to accepting autonomy

over your own learning. "I feel like that the way to get students' engagement back or get them to

think about their own behavior processes is to have them reflect on them", Katheryn says. She

goes on to say "these are young people who are figuring out how to manage their time, and they

have a lot of distractions at their disposal, so blended tries to teach or encourage them to be good

stewards of their time".

Penny, whose class has utilized blended learning to offer small groups access to materials

and space, maintains that while she doesn't always use blended days for remediation like many

participants have mentioned, "really it was about giving students autonomy over when they

learn". Melissa, who teaches at building C which no longer offers blended learning, believes that

for all these reasons mentioned previously, blended learning was truly innovative. In offering

students more autonomy over time, place, path, and pace she says "it kind of brought the college

style of learning into high school, and I feel like they've been ready for that for a long time".

Summary

Data collected from nine participants during interviews of approximately 40 minutes and a focus group of approximately 30 minutes yielded four themes for this phenomenological study. It was found through interviews and a focus group that high school blended learning teachers in this upper Midwest school district felt more time and varied training supports were vital to the success of a blended learning program. The initial training was a barrier to entry for some, originally being offered in the summer only with a cap of 30 participants. It was suggested by several participants that more frequent opportunities to take this training that was required for offering a course in a blended learning format be offered as well as potentially offering an advanced version for teachers to take after a year or two of implementation. Finding time to create, find, and implement the tools of blended learning was frequently mentioned by participants as a key need as was having a strong group of teachers to collaborate with on blended learning. Most participants found that the ability to differentiate for their students was a main driver in their motivation to teach in a blended format. One participant simply felt this format allowed her to work with smaller groups maximizing limited space and resources. The autonomy that blended offered to students was appreciated and resulted in the byproducts of more respect, maturity, and motivation. Having the support of building administration was another vital element that would lead to successful blended programs according to participants. Additional supports from the building level such as creating clear communication, aiding in a process for attendance, and offering blended learning professional learning communities were helpful as well. Most participants felt that the magic of blended happened when teachers were afforded time to work in smaller groups or even one-on-one with students who were struggling and thus did not qualify to work outside of the classroom. This time often resulted in those

students increasing their understanding, completing missing work, and raising their grades. Overall, many participants reported their overall grades were higher, something they attribute to students taking ownership of their learning and being motivated to qualify to earn blended time outside of the classroom. Chapter 5 includes a summary of the study, conclusions, a discussion, and recommendations.

CHAPTER 5

Summary, Conclusions, Discussion, & Recommendations

The purpose of this phenomenological study was to examine the lived experiences of high school teachers who have implemented blended learning in their classrooms and understand how blended learning is impacting the secondary teaching and learning environment. This study explored the experiences of nine high school blended learning teachers in an upper Midwest school district. Chapter 5 presents a summary of this study, conclusions, discussion, and recommendations.

Summary

Alternatives to traditional classrooms have been piloted for decades in attempts to revolutionize education thereby reaching more students where they are. The ability to differentiate teaching to meet student needs, increase student success, and reduce student disengagement and failure is an important consideration of teachers (Bondie, 2019; Tomlinson, 2017). The recent COVID-19 pandemic has taken many experimental pedagogies and put them into wide-scale practice, including online learning, hybrid learning, and blended learning (Li & Lalani, 2020). Blended learning is one practice that has been ambiguous to define and therefore research on this teaching method is hard to find (Dzuiban et al., 2018; Oliver & Trigwell, 2005).

One definition of blended learning is the combination of active, engaged learning online with active, engaged learning offline to provide students with more control over the time, place, pace, and path of their learning (Tucker, 2022). But the verdict remains out on how technology enhanced learning (TEL) affects student engagement. Several studies found that remote teaching pedagogies correlated to low student engagement (Aldhafeeri & Alotaibi, 2022; Kelly, 2021; Shi et al., 2021). Additionally, a study conducted during the peak of the pandemic indicated that 86%

of teachers surveyed felt moving through a variety of teaching modalities from fully virtual to hybrid in response to COVID-19 restrictions had a negative effect on education (Kelly, 2021). Despite some of the negative effects reported regarding remote learning implementation, technology integration including online delivery methods can provide positive aspects to the teaching and learning process. The access to content from anywhere and the ability to connect with experts and peers all over the world are reasons that including technology in the classroom can be beneficial. In addition to these collaborative opportunities, interactive digital modeling, robust libraries of resources and examples, and collaborative labs are all benefits of planning technology enhanced lessons (Snyder, 2021).

In a 2021 study of high school students and blended learning, researchers worked to understand how student cognitive engagement and student motivation are affected by blended learning pedagogy. Shi et al., (2021) found that while remote students can suffer from low cognitive engagement and motivation, sound instructional pedagogy and teacher involvement can offset these deficits. The presence of the teacher was found to be an important link in motivation and student engagement research (Fryer & Bovee, 2016; Skinner & Belmont, 1993; Quin, 2017). Furthermore, in-class time or being face-to-face with the teacher is shown to support the social and emotional needs of learners (Picciano, 2019).

The combination of teacher support and student autonomy in relation to their effect on motivation are described through the self-determination theory which values the components of autonomy, competence, and relatedness to foster creativity, persistence, and enhanced performance (Center for Self-Determination Theory, 2022). While giving students autonomy in time and place of learning requires a level of self-regulation, the study by Tseng and Walsh (2016) where students were sampled from instructors who were teaching the same course with

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one section meeting face-to-face and another in a hybrid or blended format reported significantly higher overall learning motivation from students in the blended course as compared to students in the traditional course.

Instruction that caters to the learning position of each student is called differentiated instruction (Tomlinson, 2017). Differentiated instruction is a teaching approach that is student-centered and encompasses developmental evidence from empirical brain-based studies, viewpoints of learning styles, and constructivism (Lai et al., 2020). In their study of sixth-grade mathematics students and the effect of differentiated instruction on student self-efficacy, learning motives, and problem-solving skills, Lai et al. (2020) found a differentiated learning environment helped satisfy student needs and led to successful learning experiences and positive emotional reactions. Lai et al. (2020) found that differentiated instruction helped to grow student self-efficacy by offering control and supports that foster confidence and motivation. The use of diverse teaching strategies piqued and promoted students' learning interests (Lai et al., 2020).

According to Catlin Tucker, a leader in blended learning, many schools are seeking creative new ways to combine the best aspects of face-to-face learning with technology enhanced instruction (Tucker et al., 2017). Güzer and Caner (2014) found that while blended learning environments were well received, the face-to-face component was regarded as a vital element of learning. Instructors choosing a delivery method that is appropriate for the learning goals and objectives of the course makes sense, but it does remove some choice from the learner. The research of Boelens and colleagues (2017) found that more research is needed to understand the balance between providing maximum flexibility and autonomy for the learner in terms of time, place, path and pace while still considering the need for structure and support offered by the face-to-face presence of the teacher.

In "A Systematic Review of Systematic Reviews on Blended Learning: Trends, Gaps and Future Directions" Muhammad and colleagues' (2022) findings show that blended learning has mostly been investigated in higher education and focused on the students. Short and colleagues (2021) encourage a greater focus on research in the area of blended learning and teaching based on the lack of peer-reviewed resources and the encouragement of the U.S. Department of Education to prepare teachers for blended instruction. Being positioned in such a central way, Sun and colleagues (2018) call for research to consider how students learn and the roles teachers play in each type of learning environment. The lack of research focusing on the secondary teacher perspective of blended learning was addressed in this phenomenological study. This work provides insights on the trainings, tools, and supports that teachers find most helpful when implementing blended learning and illuminates what benefits secondary teachers find to this practice.

Methodology

Criterion sampling was used to find participants who have experience at the secondary level implementing blended learning. Nearly 100 teachers who share in this phenomenon from one upper Midwest school district were asked to participate through an email. Of the four high schools in this district, three schools had teachers elect to participate in the study. Each participant was interviewed between late December 2022 and early February 2023. Seven of the interviews were conducted in person, two of the interviews were conducted remotely via Zoom.

Through a cyclical process called the hermeneutic circle, themes found during data analysis were continually being revised through comparing them as they relate to the whole data set (Peoples, 2021). This process also allowed me to evaluate the biases I identified while

journaling that I brought to the research and revise them throughout the process. Four themes were eventually identified from the data.

The hermeneutic circle continued and further explanation and meaning was sought during the focus group. Focus group questions (Appendix B) sought to clarify the themes that emerged from individual interviews. Reviewing the themes that emerged during the focus group allowed participants to clarify and add meaning to the discovered themes, however no new themes were identified.

Triangulation of the data through interviews, a focus group, descriptive field notes, and journaling add to the credibility of this study. The member checking obtained through transcript verification and clarifying of themes during the focus group contributes to the credibility as well. Bracketing out my personal biases through journaling and use of the hermeneutic circle help the confirmability of this study. Describing in detail and following with fidelity the methodology proposed futher aids in this study being trustworthy. While qualitative research is not meant to be generalizable, the findings of this study may be transferable to similar populations. The details provided on the study methodology and participant population will help readers determine the extent to which these findings may apply to their situation.

Findings

Through the analysis of collected data from interviews, a focus group, and field notes, four themes emerged. The *time* to find, create, and implement *tools* revealed during *training* was significant and made easier through various *in-building support*. The ability to *differentiate* and offer *autonomy* to their students were key drivers that motivated teachers and students to participate in blended learning. The *success* of the blended learning experience was based on the teacher's purpose for blending and this varied from remediation to equitable access to materials.

There were many intersections between these themes and while many productive suggestions for improvement emerged, overall the nine participants shared a overwhelmingly positive experience of implementing blended learning in their classrooms.

Training, Tools, & Time. As all of the participants received the same training, albeit at different times, the comparisons did not yield much. However, reflecting on their experience since receiving their training, most teachers had insights and ideas for improvement of the training and even additional trainings that could be offered in the future. Of the initial training, a weeks-long summer course operated in a hybrid format, most teachers found value in what they did. The course used the book *Blended Learning in Action: A Practical Guide Toward Sustainable Change*, by Catlin R. Tucker, Tiffany Wycoff, and Jason T. Green (2017). Several participants referenced the book and stated that most of the structures or models they used came from the text.

However, the course alone, which involved reading chapters of *Blended Learning in Action* and responding to discussion posts, often felt like busywork according to participants. In part, this may be due to teachers taking the course not having a bigger picture of what blended learning could look like. Participants shared during the focus group that being able to meet with blended teachers before signing up for the course or even observing blended classrooms would have been helpful to add some context to the discussions they were having in class. Moving the learning from theoretical to experiential was a suggestion of several participants.

One way to make the initial blended training more experiential while also addressing an often brought up desire to offer the class at more times than just the summer, is to offer it during the school year. In this way, teachers could partner with a teacher currently implementing blended learning and see it in action. This suggestion also rectifies the issue of the course filling

up and teachers having to wait a full year before taking it and thus implementing blended learning in their classrooms. The abstract conceptualization through active experimentation of Kolb's Experiential Learning Theory (1984), is at work in these participants as they reflect on their experience with blended learning training and postulate how it could be improved.

In addition to the district-offered training evolving, participants noted they often sought resources themselves through Facebook groups, blogs, and other experienced blended learning teachers. All participants believed this to be a normal part of the implementation process and did not view the initial training as deficient. However, they did suggest that after teaching blended for a semester or a year, another more advanced training might be offered. Participants suggested smaller trainings both to boost interest in teachers that were unfamiliar with blended and to offer additional supports and community to those currently teaching blended could be offered during after school staff meetings and district in-service trainings. During the focus group discussion, the significant statements read regarding additional training received enthusiastic body language and verbal affirmations.

Regarding training on the tools, specifically the technology necessary in implementing a blended learning model that combines active, engaged learning online, participants shared that no additional training for technology tools was provided. Google Classroom, Screencastify, Flipgrid, Google Slides, Quizizz, Formative, ALEKS, Google Meet, and a myriad of other applications were learned by teachers on their own. Including training for vital digital tools in addition to the models of blended learning that are reviewed during the training was suggested by participants. This is another area where the learning could move toward experiential and teachers in the course could learn from each other and current blended teachers through observation and collaboration.

While the idea of collaborative support spans both the training, tools, and time theme along with the building support theme, the building that offered a regular professional learning community meeting for blended teachers did seem to have more successful implementation according to participants. The inclusion of a blended learning PLC not only allowed blended teachers to learn from and support each other, but when run by a building principal allowed for streamlined communication of expectations and increased building support. A few participants wished they would have been invited to attend this PLC before committing to the training course as a way to learn about blended and see what blended teachers view as beneficial and what supports they are still seeking. Each of the participants noted collaboration, both formal for one building and informal for the others, as the most beneficial 'training' they received.

The tools that teachers mentioned using ranged from the formal models of blended learning they had been exposed to during the blended learning training to digital supports such as a Learning Management System and applications like ScreenCastify, Flipgrid, and various websites. It was clear that the participants had received the same or similar training based on the book *Blended Learning in Action: A Practical Guide Toward Sustainable Change*, by Catlin R. Tucker, Tiffany Wycoff, and Jason T. Green (2017) as there was a consistency in their language and models mentioned.

The most common models of blended learning that participants used included the station rotation model and the flipped classroom model. The station rotation model was mentioned by all participants and several noted having used it prior to teaching their course in a blended format. This model allows for differentiated instruction that utilizes well thought-out stations to either impart knowledge, practice a skill, work collaboratively, or receive intervention. These stations can include technology, but often don't. Most participants mentioned how this model

allows for students to learn to work collaboratively, process information in different ways, and receive more individualized feedback when working with the teacher at a station. The combination of student-led learning with the additional benefit of a small group opportunity for the teacher to provide supports or interventions was considered an ideal blend for all participants. However, although several felt the station rotation model was an engaging and useful tool, at least one participant shared having mixed experiences with it. This is not entirely unexpected and when asked to reflect about what made it work sometimes and not work other times, this participant felt that it was reliant on how it was explained or presented by her. This participant referred back to her building's blended learning PLC as a support to troubleshoot this situation and improve.

The flipped classroom model was also mentioned as used by several participants. The use of a video recording app and ways to have students process such as a discussion prompt on the LMS or questions throughout the video in EdPuzzle were shared as vital tools to make this model viable. One participant mentioned that when designing her blended learning course she considers what students actively need her for or what process are more independent. In the case of taking notes or learning content, she feels that they can watch and take time to process a video independently, freeing up valuable in-class time to have deep discussions or apply the new learning. Furthermore, several participants noted that facilitating online discussions can be tricky but felt it was more inclusive for students who needed more processing time and preferred to construct and edit responses before sharing publicly. Additionally, the work shared online including discussions but also submitting reflections and even papers creates a sort of digital portfolio that students are able to revisit and reflect on their learning.

All participants mentioned how implementing blended learning has required time above and beyond what is normally required to prepare for a class. And though many said that once certain activities are created and you've taught a course blended it would get easier, they often voiced concern that this was a barrier to entry for some teachers. One way to offset the time investment required is to implement blended learning as a team. A few participants enjoyed this division of responsibility and shared that it not only lightened the load for creating and planning but also gave a built-in support system. It was unclear by the participants if there were rules for offering blended either for all classes of the same course or none at all, but that was the experience of one participant. She wanted to offer her speech course blended, however the other teacher wasn't trained to teach his sections of the course in a blended format. She felt held-back by this, but understood it would be difficult for scheduling to either make student choose a delivery method or randomly assign them. This was something most participants said was worth consideration not only for the collaborative support implementing as a team would offer, but also to ensure student buy-in and consistent messaging.

Differentiation and Fostering Autonomy. The participants in this study indicated that the ability to differentiate their classroom and foster autonomy were primary reasons they chose to implement blended learning. Increasingly diverse needs of learners were mentioned as a hurdle many participants have been struggling to overcome, and thus far they unanimously agreed that the benefits of blended learning outweigh any downsides in accomplishing this and other goals. One downside mentioned was a loss of connection with students due to extended time outside of the classroom. A few participants stated that being intentional with building a community in your class can both remedy the lost facetime with some students and increase

engagement during collaborative group work. Still, teachers felt that giving students more control over their learning ultimately fostered more respect and engagement.

Models of blended learning fostered autonomy by requiring students to take responsibility for their learning, seek answers on their own or with peers, and manage time to accomplish learning on pace, participants concluded. Several statements were given by participants that indicated the growth they witnessed in their students' ability to make choices that were best for their learning. The 'life skills' that were inadvertently being taught including collaboration, time management, self-realization, and self-advocacy were valued among participants as much as learning content. One participant spoke reverently of the agency that blended learning was fostering in her students, noting that as they recognized and accepted they could be a learner without needing direct instruction from a teacher it was a powerful realization.

Because many students valued the freedom to work outside the classroom, qualifying for a blended day served as a motivator for them, participants said. Most buildings used a measure of 80% or higher grade with no missing work as the baseline to qualify to work outside the classroom when offered. Some participants mentioned including some qualifications of their own that boiled down to good behavior and respect in the classroom. Although a few participants pointed out that some students feel they will never reach those benchmarks and therefore are not motivated by the opportunity to participate in a blended day, this ultimately resulted in them receiving more targeted instruction on those days from teachers. The most noted outcome of blended learning by participants was the small group or even one-on-one time they had with struggling students when the majority of class was not in the room. So although the prospect of having a blended day served to motivate some students to do their best work, those who didn't

earn blended received the benefit of working directly with the teacher, usually increasing their understand and grade in the class, participants shared.

This level of extreme differentiation, where thriving students were given time outside of class to learn material or work through extension activities and struggling students received valuable remediation in a smaller environment happened occasionally, but the models implemented during in-class time provided for differentiation daily. Use of a station rotation where students work in smaller groups on different aspects of the curriculum helped participants to differentiate and work with students where they are. Other models of blended learning like choice boards were mentioned by participants as effective ways to differentiate learning and give students voice and choice in their learning. One participant differentiated and fostered autonomy in her classroom not by ability but by availability of resources. For her class, there was only so much space, so many cameras, and so many computers to divide among students. By having students rotate through each of the portions of the class like note taking, picture taking, and editing, rather than keeping them all in lockstep, she was able to allow students to have hands-on experience they otherwise may not have had. This was a lone example, but a powerful reminder of the diverse applications of a blended learning pedagogy.

In-Building Support. Not surprising was the theme of in-building support. The success of any program is often dependent on things like training, messaging, communication, layers of support, and buy-in from stakeholders. Blended learning seemed to be accepted by administrators in three of the four buildings, however one building did not have anyone participate in the study, so that is speculative. It is assumed that building supports blended learning as it was a pilot building where blended learning originated and still has many teachers

utilizing the practice. And one building where blended learning is no longer practiced had one participant who lamented the loss of blended and fervently wished it would come back.

One surprising revelation was the notable frustration that participants had with the lack of clear expectations for how to structure blended learning. All participants felt clear in their purpose for blending and all stated they chose when to blend based on when it was appropriate in the curriculum. However, there were several accounts shared by participants of teachers who gave blended twice a week, the maximum allowed by the school, and seemed to be using that time as an extra planning period instead of working with students or conducting remediation. The frustration seemed to stem from the conflicting message this was sending to students who now believed it was their right to blend twice a week, regardless of what the content and learning required. In reflection, participants felt that a stronger administrator presence in the implementation of blended would help to mitigate the differences in applications of blended learning.

Communication was brought up by all participants, but in varying ways. Commonly mentioned was how having clear expectations from administration communicated and then followed through on would benefit both teachers and students. Another was aid from the building administration in communication of these expectations with parents. Participants in one building said all communication about blended with families was handled for them, whereas the other participants felt that fell on their shoulders. Lastly, communication between blended learning teachers as facilitated by a professional learning community was helpful according to participants who had experienced this. In reviewing this theme during the focus group, participants who did not have access to a formal blended learning PLC in their building believed this would be helpful, as long as it was voluntary.

Lastly, several participants reported some tasks like taking attendance and following up with students who took blended but didn't earn it was time consuming. Participants understood the reason why taking attendance for students blending and those in the classroom was necessary, however, they felt that there could be a more streamlined way to do this. During the focus group participants discussed this. Some shared ideas about adding options into Infinite Campus where attendance is taken to denote a student was 'present' but out of the building indicating they were allowed to blend. Others pointed that even with that option in Infinite Campus, it would still be the responsibility of the teacher to make sure students checked in and then email the administration if they didn't or if they skipped and were supposed to attend. No clear answers emerged, but participants were hopeful that as blended continued to grow in their district, practices would continue to become more efficient.

What Success Looks Like. Participants mentioned increased motivation, less behavior issues, deeper trust, strong collaboration, engagement, strengthing of life skills like time management and accountability, increased agency, fewer failures, and more student learning as successful outcomes of blended learning. It became clear that what participants considered successful depended on their purpose for blending. If a participant was hoping to remediate with struggling students then they were looking for models and times in the curriculum that would allow them to work in small groups or one-on-one with those students not usually provided in a traditional classroom. If a participant was hoping to make large amounts of content feel small by chuncking and allowing time to process in small groups, their blend reflected that. In summary of what success looks like, teachers were also taking agency of their curriculum and blending in ways that suited them and their student's needs.

Motivation was one outcome of blended learning that several participants mentioned they didn't expect. As discussed previously, not all students were motivated by the opportunity to take their learning outside of the classroom, but those who were ultimately worked hard to have their grade meet the expectation and have all work turned in. Several participants said that having the threshold at 80% encouraged capable students to push a little harder to earn a B when they normally would have been content with a C. These participants shared that they had more A and B students now as compared to C and D students previously.

Another positive outcome of blended learning that many participants brought up was less failures. They largely attributed this to the increased small group or one-on-one time that could be used to remediate. Making a large class or even large curriculum feel small through the ability to work with students where they are was an oft-mentioned benefit of blended learning.

Perhaps closely related to the increase in grades was the attribute of increased engagement in their blended learning classes. Participants felt that engagement was increased, but offered varying reasons for why. Some participants felt students were more engaged because they wanted to do well to earn blended. Some participants felt that engagement was a byproduct of using more unique lesson delivery methods like a flipped classroom, choice board, or station rotation model. In comparison with a traditional sit-and-get lecture style of instruction, participants felt this met more students where they are at. And some participants felt blended learning amounted to the learning being student-led as opposed to teacher-led and that this increased their engagement.

Fostering student autonomy came back to overlap with this theme of success. Giving students choice was said by participants to increase their engagement and foster a relationship of mutual respect between teacher and student. One participant mentioned she feels that many

teachers are afraid to give students that freedom and, in her opinion, they couldn't be more wrong. She shared that during the year she taught blended she had almost no behavior issues or failures and she credits treating students like adults and offering them trust. Another participant shared how students would take more pride in work when they had a choice in how to demonstrate their learning. Furthermore, several participants agreed that some blended learning strategies hold students more accountable for their learning. The ability to identify and work with struggling students takes away the ability to hide in a large class as does frequent use of stations and group work where students rely on each other during the learning. Many participants believe that offering students more agency simply prepares them for life after high school, and blended learning can foster those skills.

Conclusions

Several conclusions have been drawn from the research and address the research questions. Participants expressed a strong belief in the efficacy of a blended learning pedagogy. Participants articulated a desire for more teachers to offer courses in a blended format both due to their belief in blended learning and also for the ability to collaborate with colleagues on the implementation of blended learning strategies. Time was mentioned frequently as a barrier to incorporating more blended strategies, and the ability to share the workload with colleagues as well as troubleshoot issues as they arise was anticipated by participants to strengthen blended learning in their buildings. Participants shared evidence of success with blended learning including increased motivation both in and out of the classroom for many students, and for those who were not motivated by blended, increased intervention time with the teacher was facilitated. Increased student engagement was often noted and correlated with the autonomy that students

were offered through blended learning. Overall, each of the participants felt encouraged by how blended learning has changed their classrooms.

Student engagement, although difficult to objectively measure, was mentioned frequently by participants. Participants often validated the increased engagement by comparing student engagement prior to teaching using blended strategies to now using blended strategies. Features of engagement that participants shared include peer-to-peer interaction and collaboration, willingness to participate during class time, loosing track of time due to how engaging an activity was, and enthusiasm for choice and autonomy. The blended strategies that teachers mentioned most included the station rotation model, flipped classroom, choice boards, and fully remote blended teaching days.

All participants received the same formal training through a district-facilitated blended learning course using the book *Blended Learning in Action: A Practical Guide Toward Sustainable Change*, by Catlin R. Tucker, Tiffany Wycoff, and Jason T. Green (2017) as a textbook. Participants felt the course was helpful, but offered several suggestions for improvement. First, participants encouraged offering this course more often and at different times during the year to allow for teachers with differing schedules to obtain this training when it works for them. This barrier to entry was inhibiting more teacher innovators from incorporating blended learning due to having a waitlist. Participants also feel an advanced course could now be offered for teachers who have experienced incorporating blended learning to help advance their skillset and offer new strategies to try. Most participants reported seeking training themselves through Facebook groups, blogs, or collaboration with other blended teachers as a way to support themselves through the implementation process.

Participants who experienced the support of a blended learning PLC in their building found this resource to be invaluable. Additionally, clear communication between building administration, blended learning teachers, students, and parents was often stated to be vital to the success of a blended learning program, and a PLC was one way to set the foundation for that communication. Finally, the understanding and support of building administration including communication but also in tasks such as taking and tracking attendance was desired by participants.

Discussion

This phenomenological study aimed to describe the lived experiences of high school teachers who have implemented blended learning in their classrooms and understand how blended learning is impacting the secondary teaching and learning environment. An intersection of the research and the themes emerged from this study will guide this discussion.

Defining blended learning proves a challenge even decades after its first use. Blended learning today is generally defined as a learning program where more than one delivery mode is being used to customize learning and optimize the learning outcome (Singh & Reed, 2001). But this is a loose definition as blended learning exists on a spectrum where the use of, usually, face-to-face instruction and a technology component are present in varying ratios. Similarly to the findings of Güzer and Caner (2014), the participants of this study unanimously leaned more on face-to-face or in-class instruction, only using out of classroom time where learning was dependent on technology sporadically. Additionally, in-class and out-of-class time did not necessary correlate with technology use. Most participants used technology as it served the class, both in-class and as students took a blended day to work outside the classroom. According to Tucker et al. (2017) blended learning requires that learning activities be thoughtfully and

carefully chosen to reach each student and maximize learning outcomes through true personalization allowing for the difference in time, place, path, and pace.

According to the research, there are several components that have proved impactful when implementing blended or technology-enhanced learning. Güzer and Caner (2014) found that cultivating a course that encourages participation and social interaction through effective collaborative activities is a critical component of a blended learning course. Participants of this study reported increased engagement and collaboration particularly when using a station rotation model. The flipped classroom model used by participants correlated to the recommendation of a study by Melton et al., (2009) where students in blended learning courses took responsibility for learning content on their own time freeing up in-class time to scaffold for deeper learning through tasks. Another high-impact strategy studied by Tseng and Walsh (2016) was to place learners at the center of the learning by allowing continual reflection on materials that extends the choice of time and pace to the learner. This strategy was noted by Tseng and Walsh (2016) to increase learner satisfaction and confidence. Participants of this study did not explicitly mention how well they were able to offer students' agency in time and pace of learning, but some alluded to mastery learning and use of time to revise writing, retake assessments, or construct discussion posts. And lastly, using available technologies to synthesize, evaluate, and assess was offered as a way that technology can enhance learning through quick and interactive feedback (Picciano, 2019). Several participants noted the use of tools like Formative, Google Classroom, Kahoot, Quizizz, and others to help learners self-assess their learning and grow from immediate feedback. Important to note regarding these high-impact blended learning strategies and how participants of this study implemented them is these strategies were used with all students. Providing access to high-level content to all students and offering scaffolding in the form of

feedback, extended time, access to resources including student collaborative groups and individual time with the teacher embodies what the research supports for successful blended learning implementation.

Participants all mentioned student engagement in their blended activities as another positive outcome. When asked how they knew students were engaged, participants pointed to interactions with peers, active listening and questioning through lessons and activities, comments about how quickly the class went and not realizing how much work they've done, and the accountability that group work was having for all members. Additionally, student achievement was mentioned by several participants as increased as compared to the same class before teaching it blended. This aligns with Halverson and Graham's (2019) research which found student engagement impacts educational outcomes like achievement, persistence, satisfaction, and sense of community. Not surprisingly, in addition to achievement, persistence, satisfaction and sense of community were mentioned by one or more of the participants of this study.

Teacher-student relationships (TSRs) have been found to have direct and indirect effects on many indicators of student engagement (Fall & Roberts, 2012). Many participants felt that through blended learning better TSRs evolved. Participants noted that behavior issues diminished and student motivation increased along with respect for the teacher and their peers. Participants felt that by treating students as responsible adults, they rose to the challenge. The research says, "Overall, across the reviewed studies, better quality TSRs were associated with higher levels of psychological engagement, academic achievement, and school attendance and reduced levels of disruptive behaviors, suspension, and dropout" (Quin, 2016, p. 373). This study adds to the research of Aldhafeeri & Alotaibi (2021), Fall & Roberts (2012), and Quin (2016) affirming that teacher involvement is incredibly impactful on student engagement regardless of the modality.

Increased student motivation in blended learning was mentioned by all participants. The motivation to earn blended days was described by participants. However, several participants also noted that students who didn't feel they had the ability to qualify were not motivated by the prospect of a blended day. Since blended days often included learning or an extension activity online, having low-performing students stay in-class to work directly with the teacher aligns with the research of Bergdahl et al. (2020) that found high-performing students found it easier to concentrate in a technology enhanced learning (TEL) environment than their low-performing peers. In this way, participants are differentiating and meeting students where they are in their abilities with appropriate modalities. However, this does differ with some recommendations by Tucker (2020) in *Balance with Blended Learning* where she addressed the issue of unmotivated students. Tucker (2020) states "Too often, students are asked to complete work they believe is simply 'busy work' because no one has articulated the value of that work or given them any degree of agency in relation to that work" (p. 72). Tucker encourages teachers to give learners agency to set goals for their learning and a reflective process during the learning to attain those goals. Similar to knowing their 'why', setting goals allows students who are not intrinsically motivated by the content to see how learning in this course will take them closer to their goal, even if that just means passing this class so they can move on. The use of cutoffs to earn a blended day excluded and tracked some students, ultimately going against the tenants of self-determination theory (Deci & Ryan, 2008) and self-system model of motivational development (Fall & Roberts, 2012). While teachers shared that the smaller group time they had to remediate with those left in the classroom was often valuable and caused grades to rise, several teachers noted that some students would simply skip if blended was not earned, ultimately perpetuating the problem. By leaning into the more student-led and personalized nature of a blended course,

letting students determine their goals and purpose for learning could serve to motivate better than earning a day outside of the classroom.

Serin (2018) found that designing learning environments that hold interest and generate enthusiasm can lead to more intrinsically motivated students. Participants explained being thoughtful in their design of blended learning, most stating they were taking the student's perspective into account when planning blended. Using blended strategies such as station rotation models during in-class times and being very judicious with their use of out-of-class blended days was the approach of most participants. The research on motivation done by Fryer & Bovee (2016) and Shi et al. (2021) support that students' perception of teacher presence, support, and pedagogy exhibited a range of influences on and was even predictive of motivation. The intentional choice by participants to create a collaborative environment where the big and feel small in their classroom community goes hand-in-hand with this research. Echoing the research of Fall & Roberts (2012), Quin (2016), Shi et al. (2021), and others, Serin (2018) summarizes some important factors for increasing student motivation including teacher features, learning environment, and student choice. The experiences shared by participants regarding well-designed in-class blended learning models seem to align with this research and further enforce tenants of self-determination theory (autonomy, competence, and relatedness) which are said to foster creativity, persistence, and enhanced performance (Center for Self-Determination Theory, 2022).

Further relating to self-determination theory, participants frequently mentioned the use of differentiation where they were able to provide scaffolds to help struggling learners in more intimate environments. According to Janson et al. (2020), scaffolds exist to foster learners' confidence, competence, and independence through appropriate structure and support. In this study, participants strategically planned blended days so they were able to extend the learning of

on-pace students while working to recover and remediate in-person with struggling students. Rather than a one-size fits all approach, participants alluded to finding the freedom to accommodate within their curriculum using blended. The research supports this move by participants stating that differentiated instruction is an essential tool that allows teachers to hold high expectations despite the varied experiences, understandings, needs, interests, and strengths that students bring to the classroom (Bondie, 2019). According to Tomlinson (2017), teachers can and should adjust their teaching methods based on the learning position of each student so that the learning matches the learner. However, providing differentiated instruction while not tracking or excluding groups was noted as a potential area of growth for the blended learning programs in this district. Using blended models to facilitate learning that provides equity and access to high-level content and aligns with the high-impact strategies found in the research should be an explicit outcome of this and any blended learning program.

Participants shared the struggles of offering this high level of differentiation and autonomy to students stating the time commitment was often far greater than planning a traditional classroom. Boelens et al. (2017) research agreed, saying that finding the right combination of instructional methods and tools can be very challenging, specifically in the areas of incorporating flexibility, stimulating interaction, facilitating students' learning processes, and fostering an affective learning climate. Participants leaned heavily on tools they were given during their initial training while also seeking insights from Facebook groups about blended learning, blogs, and current blended teachers within their building.

Participants often referred to the station rotation model as a preferred method of blending and offering differentiated instruction in their classroom. Tucker (2020) describes possibilities of this model saying that one station is often a coaching session or lesson with the teacher, allowing

the teacher time for targeted instruction, scaffolding, formative assessment, and real-time feedback for students. Participants were trained using *Blended Learning in Action* as their text, so it's not surprising that their reasons for using this model aligned with the stated benefits in the book. According to Tucker et al. (2017), the flexibility of the model in what you can include, how it requires minimal technology, and how it offers the teacher time to work individually or in small groups with students are among the many benefits of a station rotation model.

This study revealed another common model of blended learning used by participants was the flipped classroom model. Research by Clark and Post (2021) found that students who completed eLearning materials before participating in on-site group problem-solving activities performed higher in related assessment tasks than students who did not complete the pre-eLearning. Participants of this study often considered which parts of the learning were more passive and did not require teacher presence when deciding what students could take on themselves. While Tucker et al. (2017) suggests using online tools like TED-Ed or EdPuzzle to make watching a video lesson an engaging endeavor with opportunities for formative assessment along the way, several participants mentioned saving the processing and engagement with the material for in-class time. As many participants mentioned a craving for further training, discussions about moving methods like station rotation or flipped classroom to the next level could be topics of interest.

Considering how training and support emerged as central themes in this study, it is important for administrators to consider professional support and development an integral part of implementing blended learning. "Technology support, pedagogical support, and faculty time to plan and execute and exchange ideas with other faculty will be critical for success" (Vignare, 2007, p. 56). Tucker (2019) agrees that targeted training, professional learning communities

(PLCs), and one-on-one coaching sessions for teachers should emulate blended learning models and focus on building capacity. Participants who had access to a professional learning community for teaching blended reported feeling more supported and having more resources than participants in other buildings. If growing blended learning in a building or district is the goal, then this study supports previous research by Zaka (2013) finding that encouraging professional growth both formally and informally through communities of practice is an effective capacity-building model.

Tucker (2019) states that once teachers are bought into the vision for blended learning, it is vital that they have an infrastructure of professional learning to support them. Participants statements echoed this sentiment and furthered it noting that building a culture of blended learning where expectations are clearly shared would help all stakeholders thrive. One frustration of participants, despite admitting that blended learning is variable and looks different from classroom to classroom, is that some teachers are not using blended to further student learning. Many participants stated they wished the administration had a clearer message and was more involved in the implementation of blended learning. In *Blended Learning in Action* they emphasize that more important than the structures offered is getting all stakeholders to share the same vision and create a blended learning culture (Tucker et al., 2017).

Recommendations for Practice

This study, including the themes identified from participants and consideration of the reviewed literature, yields the following recommendations:

- Districts and buildings seeking to incorporate blended learning should clearly define their purpose for implementing blended learning and include all stakeholders in this discussion to create buy-in and a clear vision.

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- Teachers should be offered information about what blended learning is and how it may benefit their classes to encourage interest and reflection as they receive the training.

- Training should be offered several times per year, both during and outside the school year. Training should include an application component where teachers collaborate with current blended learning teachers.

- Additional advanced trainings for teachers who have taught blended for a year or more should be offered at staff meetings or district in-service to refine their practice and add new tools to their repertoire.

- Offering an optional building-level professional learning community for blended learning teachers to support and learn from one another is highly encouraged. Administrators should run and/or attend this PLC.

- Teachers in their first year of blended learning need time to learn technology, find or create tools that work with the models of blended learning, communicate with students, and implement high impact blended learning practices.

- Finding ways to streamline communication and attendance help move administrative tasks away from blended learning teachers allowing them to work with students.

- Clear expectations must be communicated by building administration about the purpose of blended learning and when or how often it should be used.

- Building administrators should be present in blended classrooms to witness and ensure the high-impact strategies that support student learning in a blended environment are being used and deter teachers from falling into tracking, using blended days as free days, or otherwise diluting the rich pedagogy that blended models can support.

Recommendations for Future Research

The findings from this study of how secondary blended learning teachers described their experience aligned with current literature on student engagement, motivation, differentiation, scaffolding, and blended learning. What follows are recommendations for future studies to continue to add to the research in this area.

- A limitation of this study was the number of participants. Conducting a study that includes data from hundreds of participants could add to the research. A survey could accomplish a broader collection of this data.

- It is recommended that a phenomenological study be done that describes the experiences of administrators who have implemented blended learning to see if their experiences and challenges align with those of teachers in the current study.

- I recommend comparing the experiences of blended teachers in districts of different sizes to identify similarities and differences in training and support and how it affects teacher experience.

- An experimental research design study comparing high-impact blended learning practices to traditional classrooms for student engagement and outcomes is recommended.

- I recommend conducting a phenomenological study of a district that is further along in the implementation process to see how training and supports are used as the blended culture evolves.

- A study that includes all stakeholders, students, parents, teachers, and administrators to give a holistic perspective of a blended learning implementation and areas for growth is recommended.

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Appendix A

Interview Questions

Below are the questions asked of all participants during one-on-one interviews:

Background Questions:

1. What is your age and your education related to teaching?

2. How many years have you been teaching and in how many districts have you served?

3. Tell me about your classroom teaching experience.

4. Did you have any experience implementing technology before implementing blended learning?

5. Tell me about any training you have received concerning technology prior to training for blended learning.

Questions aligned to research questions:

6. Tell me about what caused you to try blended learning in your classroom.

7. How long have you used a blended approach in your classroom and with what courses?

8. What training did you receive prior to implementation?

9. Have you sought any training yourself, and if so, tell me about that.

10. If you know or recall models of blended learning, what models do you utilize (can give a widely used model as an example, i.e. station rotation model)?

11. What thoughtful design techniques do you utilize when implementing blended learning?

12. How would you define "tools" for blended learning? What tools do you use?

13. What are some common active learning activities and/or structures you utilize in blended learning?

14. How do you utilize these models, techniques, tools, and activities to allow for a

    difference in time, place, path, and/or pace in your blended learning course?

15. Do you see benefits to student engagement in using a blended learning approach, and if

    so, what are those benefits?

16. Are there specific structures used in your blended learning class that have engaged

    students more than others? How do you know?

17. Describe any negative aspects of using blended learning.

18. What pieces of training and support have you found most beneficial to you as you

    implement blended learning in your classroom?

19. What supports do you wish you had for implementing blended learning?

20. What, if anything, would you change about blended learning in your district?

	Background Information	Research Question 1	Research Question 2	Research Question 3
Interview Q 1	X			
Interview Q 2	X			
Interview Q 3	X			
Interview Q 4	X			
Interview Q 5	X			
Interview Q 6		X		
Interview Q 7		X		
Interview Q 8				X
Interview Q 9				X
Interview Q 10		X		
Interview Q 11			X	
Interview Q 12			X	
Interview Q 13			X	
Interview Q 14			X	
Interview Q 15			X	
Interview Q 16			X	
Interview Q 17		X		
Interview Q 18				X
Interview Q 19				X
Interview Q 20		X		

Appendix B

Focus Group Questions

Below are the questions asked of all participants during focus groups:

1. Individual interviews revealed the following themes: (themes described)

2. For theme (#), (restate theme), how does this resonate with your experience?

3. Is there anything you would like to add or clarify to theme (#)?

   (Repeat questions 2-3 for all themes)

4. What blended learning models, techniques, tools, and activities do you believe are the most beneficial for student engagement?

5. How could your experience implementing blended learning be improved?

Appendix C

Final Focus Group Script with Themes

Group Norms

1) participants will respect each other's time by staying on topic and being respectful of each

person's right to contribute

2) participants will respect all viewpoints

3) all participants are encouraged to participate but can choose to not answer any question or

participate in the discussion if they feel uncomfortable doing so

4) all participant identities and information shared will remain confidential.

Focus Group Questions

Below are the questions asked of all participants during focus groups:

1. Individual interviews revealed the following themes: 1) Training, Tools, & Time, 2)

   Differentiation & Fostering Autonomy, 3) Building Support, 4) What Success Looks

   Like

2. For theme 1, Training, Tools and Time, significant statements included:

   - Google Classroom is a beautiful thing

   - I adore Station Rotations, flipped classroom

   - One negative is the time it takes to create stuff

   - I haven't received any additional training on blended or technology

   - It's nice to talk to other teachers who are doing blended

   - I suspect there should be more training after the introductory course

how does this resonate with your experience? Is there anything you would like to add or clarify

to theme (1)?

3. For theme 2, Differentiation & Fostering Autonomy, significant statements included:

    - Do they need me for this, or could this be learned/practiced without my presence?

    - Just building that agency, that "I can be a learner without having a teacher present"

    - Prior to teaching blended I was struggling to find ways to individualize education

    - It's great for them to learn the responsibility or time management even

how does this resonate with your experience? Is there anything you would like to add or clarify to theme (2)?

4. For theme 3, Building Support, significant statements included:

    - Needs to have a purpose, not just an extra planning period for the teacher

    - Buildings should set and make clear the expectations for teachers and students

    - Attendance takes a lot of time, having a tab in infinite campus would help

    - I think building support is key

    - Just having a support group to bounce ideas off of, and troubleshoot is so helpful

    - Creation and planning are time-consuming, helps to have a colleague to is teaching the same thing and doing it together

how does this resonate with your experience? Is there anything you would like to add or clarify to theme (3)?

5. For theme 4, What Success Looks Like, significant statements included:

    - Students are motivated to earn blended

    - I feel like relationships are better because they see that I see them as somebody that can do this and I trust them

- The magic that happens with the students who stay during blended and get intervention

- Way less failures, more Bs than C's and D's due to 80% being the qualifying cutoff

- Less behavior issues

- Gets them to work with each other, more engaged

how does this resonate with your experience? Is there anything you would like to add or clarify to theme (4)?

6. What blended learning models, techniques, tools, and activities do you believe are the most beneficial for student engagement?

7. How could your experience implementing blended learning be improved?

Appendix D

Field Notes

- Katheryn's interview took place in person in her classroom before school. She seemed very comfortable and gave very articulate and thorough answers. She did not have a follow-up interview and originally agreed to participate in a focus group but got sick the day of.

- Kendall's interview took place via zoom during her planning period. Although we were bound by the time of her planning, she was eager to share and we were not rushed. The interview was held via Zoom, and after some minor difficulties with the video in the beginning, we were able to communicate clearly. Kendall even took her computer around the room to show examples of student work from her blended class. Kendall was unable to participate in a focus group due to being out of town.

- Laura's interview was held in person in a conference room at the school where she works. Laura was very clear and direct in her responses, and although the tone was professional, she seemed comfortable and confident. Laura participated in a Zoom focus group as well.

- Jamie's interview took place in person in her classroom. This interview was the shortest at around 22 minutes. Jamie was very comfortable and succinct in her answers. Jamie was able to participate in a focus group via Zoom.

- Tamara's interview was conducted over a holiday break via Zoom. She was at her home with her small dog who initially was running around and barking but as soon as we began the dog sat quietly in Tamara's lap. Tamara was comfortable and focused during the interview and gave clear and detailed responses. She was unable to join a focus group.

- Krista's interview was held in person after school in her classroom. Her nephews were working in the back of the room, but they didn't interfere with the interview at all and Krista did not seem deterred by having them there. She was very candid and forthcoming with her answers. She participated in a focus group via Zoom.

- Melissa's interview was held in person after school in her classroom. She was accommodating and warmed up quickly during the interview, the 2nd longest I conducted. There was one brief interruption from the librarian dropping off bookmarks for an upcoming event. Her answers became increasingly animated and passionate, and while I was unaware her building was no longer allowing teachers to use blended, hearing this made her passion for the subject make sense. She participated in a focus group via Zoom.

- Charlotte's interview was held in person after school in her classroom. The tone was very conversational, with one interruption by a student coming to drop off an assignment. Charlotte was unable to join a focus group.

- Penny's interview was conducted in person after school in her classroom. This interview ran the longest due to clarifying several statements. The courses Penny teaches lend themselves to a different purpose and use of blended, so allowing her to expand upon her answers and share personal experiences helped make clear how her experience of blended has been. Penny's thorough responses gave enough clarity that a follow-up interview was not necessary. Penny was unable to join a focus group.

Appendix E

Significant Statements: Training, Tools, & Time

- the biggest part that held me back was there's a course that you have to take and that's offered in the summer

- I would just like to see more frequent training offered so more teachers could get on board

- we never got any training on Zooms, or Flipgrid, or Google Classroom, anything like that

- I can't say I got any beneficial digital training specifically for teaching

- I purchased that second one (Catlin Tucker book) and I've also been involved in conversations online through a Facebook group

- I learned what technology would be helpful and then I went and learned the technology on my own

- we had our first introductory class in the Red Apple, we should be ready for another one now of maybe more advanced ideas, more troubleshooting

- it's nice to talk to other teachers that are doing blended

- there are just so many different ways to do it that it was really helpful to either see other people's ways or, you know, hear about it from somebody that you actually work with

- using Google Classroom to check on who an assignment goes out to, so that's really helpful to both notify and give instructions

- they can think a little bit more deeply and use more of the vocab that's involved with the content because they have time while sitting and typing out their responses

- I felt my communication had to be more direct and very clear

- station rotations and whole class rotations are two things that came from her (Catlin Tucker) that I use every day and adore

- there's just a lot of things in the beginning that you have to get set up and organized so that it goes smoothly

- unfortunately I just feel like I don't have the time to really dive into it as much as I want

- I would love to have more planning or collaboration time for the units

- I guess I tried to give them more tools that they would have at their fingertips

- creating those videos took time over the summer or the weekends or evening or whatever

- Attendance takes me half an hour

Appendix F

Significant Statements: Differentiation & Fostering Autonomy

- I feel like for years and years and years my classroom looked too much like the classroom I was in when I was a teenager

- I'm gonna let you not be present and we're all gonna learn

- I think that freedom was really good for them (students)

- for me, students have to be respectful, responsible, and ready in the classroom in order to qualify for blended

- it really incentivizes them to do their very best work the whole time so that they can qualify for blended

- it feels special

- for some kids who just consistently get D's and know they won't qualify and so that doesn't really motivate them

- it's good for them to have that time because some of them are just so busy because they are involved and miss class

- I think that's great for them to learn that responsibility or time management even

- I think for some of them they were just amazed that they had autonomy, that somebody wasn't telling them 'all right, this is the structure you're following

- I also think that some of them realize what does work or doesn't work when doing homework

- Just the fact that they have that option allows them to sort of learn about how they learn or what works best for each of them

- kids need to learn how to function as adult learners or learners for life

- just kind of building that agency in them to see 'oh, I can be a learner without having to have a teacher

- I try to think about what I'm needed for and how I'm needed during that time. And so sometimes students don't need me at all, and that's a good thing, right?

- I've had to think a little bit more specifically about the skills that they're learning, and whether or not they can be taught electronically. Do they need to be in class or can it be done outside of class?

- I'm allowed to have the freedom, and my student have the freedom to individualize instruction

- They seemed more mature and I felt like when they were handed this responsibility they were really good at it

- I was always struggling to find ways to individualize education (prior to teaching blended)

- I blend when it serves me and my students

- it's targeting skills that need re-teaching or additional practice for students with teacher guidance

- I want to offer another resource in my classroom to supplement both my lower students and my higher students

- allowing kids to absorb, process the information at their own speed

- a lot of times a blended day is independent and at the same time I can be working with a small group who needs extra attention

- the negative is that level of classroom community needs to be in balance or considered

- I feel like some of the kids you don't get to know as well

Appendix G

Significant Statements: In-Building Support

- I wish there was a building-wide foundation of what blended should be and how we should use it so that our students are also on the same page

- students are also recognizing it being used in a different way instead of for intervention like they're using it as work time

- my students feel like during a review day they should have blended just because it's not a teacher-based activity

- It needs to have a purpose, not just an extra planning period (for the teacher)

- the purpose of blended is for your to give support to students that need it

- blended loses its magic and it gets kids to use it to plot against other teachers (who are using those days purposefully)

- one of the issues I'm currently having with blended right now is that not everyone in the school has the same expectations for implementing it

- does blended when it's indicated that there are students here who need more supports

- if everyone in the school was implementing blended in the same way, the way we were taught, yes it would be highly successful as there'd be common expectations… but that's not currently happening

- I feel like there's a lot of learning that could happen through an understanding of what is happening and developing a culture around it

- I wish that it was maybe checked in on more when you have a blended day, like what were the expectations for you and your students?

- I feel like not just everybody at the school, but even different schools have different definitions of blended learning

- if you don't have an administration that understands what you're doing that can really sabotage blended learning

- I guess also just making sure parents are educated on what blended is

- I think it's key to have a system in place where everybody has the same verbiage for all of the communication

- attendance might be a little clearer. Streamlining of systems of communications on that would help

- My students like to think that blended is a right, not a privilege. So they just continually ask and if they don't qualify they might skip just because they think they should qualify

- if teachers don't have the support and a system in place for tracking student attendance, I can see where that would be a problem

- blended learning teachers come together monthly and our head principal leads the discussion of what needs to be touched on after and beyond the training

- if I would've known some of those things before I took the summer class, I think I would've been even more on board

- I would definitely say you wouldn't want to go into this without any other guidance

- we've proven in this district how important collaboration is, and so we need it for this

- lunchtime conversations with other people that are using blended

- you can't be alone in it

- when we have a community that we are active in and then feel supported in then it is engaging and encouraging

Appendix H

Significant Statements: What Success Looks Like

- it's an incentive for kids to get their work done and make sure it's done on time

- for the kid who doesn't care, you can't do anything to make them care. They don't care if they have the lowest score, and they don't care if they don't get blended

- I feel like the relationship is better because they see that I see them as somebody that can do this. Like, I trust you enough to let you go and not ruin that trust

- that year with my two blended classes I had zero discipline issues. That year just seemed so much less stressful and especially with student management or behavior management because I think the students felt like 'she trusts us to manage ourselves'

- the magic that happened with the people that stayed with me is why I'm a believer

- none of the students who come to my classes are failing because they have those blended days to come and get individual attention on what it is they were missing

- I would say I have a lot more B students than I do C and D students because our threshold is 80% to qualify for blended

- I think in terms of when they're working collaboratively, they're so much more engaged because they have to be.

- they learn how to help each other because if I'm one-on-one with a student and these kids on the other side of the room need help, they seek out somebody else in the room

- They were doing something different at every station, I think they were just much more engaged

- I think that one (station rotation model) is really successful in getting them to be working with each other and doing a variety of activities. I've even noticed them saying the class flew by and they had not realized they did a ton of problems

- students who prefer those smaller group environments, they really succeed on the blended days where students can be in or out of the classroom

- that's what I really like about blended, that I can make the big feel small

- they're motivated and blended gives me the time to give them individual attention

- They take pride in their learning because they feel like I'm giving them a little bit more responsibility

- When these kids were given responsibility, they stepped up for it

- I think a lot of blended strategies hold them more accountable

- I feel like that the way to get students' engagement back or get them to think about their own behavior processes is to have them reflect on them

- figuring out how to manage their time, and they have a lot of distractions at their disposal, so blended tries to teach or encourage them to be good stewards of their time

- really it was about giving students autonomy over when they learn

- it kind of brought the college style of learning into high school, and I feel like they've been ready for that for a long time