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A PHENOMENOLOGICAL STUDY OF FLEXIBLE BLENDED LEARNING IN A FOURTH GRADE CLASSROOM

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**A PHENOMENOLOGICAL STUDY OF FLEXIBLE BLENDED LEARNING IN A
FOURTH GRADE CLASSROOM**

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A Dissertation Submitted in Partial Fulfillment of
the Requirements for the Degree of Doctor of Education

Division of Teacher Residency and Education

Curriculum & Instruction Program
In the Graduate School
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ABSTRACT

This phenomenological study explored fourth-grade students' perspectives on the barriers and successes they experienced in flexible blended learning. Focus group interviews were conducted to gain insight into the students' motivation, perceived barriers, possible changes, and their own skills and characteristics for success. Thematic analysis was used to identify themes that addressed the research questions. Students identified several barriers to participation in flexible blended learning. Internal distractions, such as losing focus, and external distractions caused by disruptive behavior by classmates were barriers. Students found video lessons to be passive learning experiences that lacked flexibility. Technology problems and glitches were also identified as a hindrance to their learning progress, leading to frustration and affecting their motivation.

Despite these barriers, the students identified several motivating aspects of flexible blended learning, such as autonomy, mastery, and self-directed learning. Gamification was also mentioned as an engagement tool, with students finding computer games and software fun and engaging. Time management and work completion were identified as essential success characteristics, along with the need to manage time effectively, prioritize tasks, and do easier tasks first before moving on to harder ones. Respect and responsibility were also mentioned as crucial characteristics for success in flexible blended learning. The students also discussed changes they would like to see in the flexible blended learning classroom, with the main theme being the need for more flexibility and adaptability in the learning experience. They also expressed a desire for more teacher support and guidance, particularly with independent work.

Overall, this study contributes to the current knowledge on elementary students' feelings and experiences in flexible blended learning environments. The findings can be used to inform the development of strategies to support students' engagement and success in flexible blended learning. Further research is needed to explore how teachers can provide effective support and guidance to students in these environments, and how to balance the need for structure and flexibility in the learning experience.

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Chapter 1

Introduction

Use of instructional technologies continues to affect the shifting landscape of classrooms today; most recently the COVID-19 pandemic initiated rapid shifts to remote and online learning significantly changing the way instruction was delivered in elementary classroom settings (Martin et al., 2020; Veletsianos, & Kimmons, 2020). The shift to distance teaching and learning during the COVID-19 pandemic brought about a challenge for both instructors and students. The challenge of distance teaching and learning to both teachers and students during the COVID-19 pandemic prompted teachers and administrators to ponder suitable hybrid and remote pedagogies of teaching and learning which might prove to be sustainable and effective in an extended global health crisis and beyond (Saboowala, & Manghirmalani-Mishra, 2020). However, the shift to online and remote instructional delivery during the COVID-19 pandemic was unique to the circumstance and any long-term instructional influence is yet to be determined; although technology can support teaching and learning, the extent to how it should be used in K-12 settings warrants examination (Saboowala, & Manghirmalani-Mishra, 2020).

In recent years, U.S. schools have steadily increased access of technology in the elementary classroom by investing in hardware like computers and tablets along with learning software and online learning apps (Mac Callum et al., 2014). Research found that teachers were utilizing the technologies made available by district investments, even prior to the pandemic. In 2018, Cambridge Assessment International Education released the Global Education Census that found 74% of students used their smartphones academically and 20% reported using tablets in the classroom. Seventy-five percent of U.S. students reported using a desktop computer in their classroom, while 59% reported using a smartboard or interactive whiteboard in their classroom.

Similarly, Gray and Lewis (2021), reported 3,210 Pre-K through 12th grade U.S. public school teachers, 1,163 public school principals, 1,219 district level administrators, and 2,696 public school students in 3rd through 12th grade. In the report, 65% of the educator's Pre-K through 12th grade self-reported daily use of technology. These same educators reported 53% of their students use digital tools in their learning.

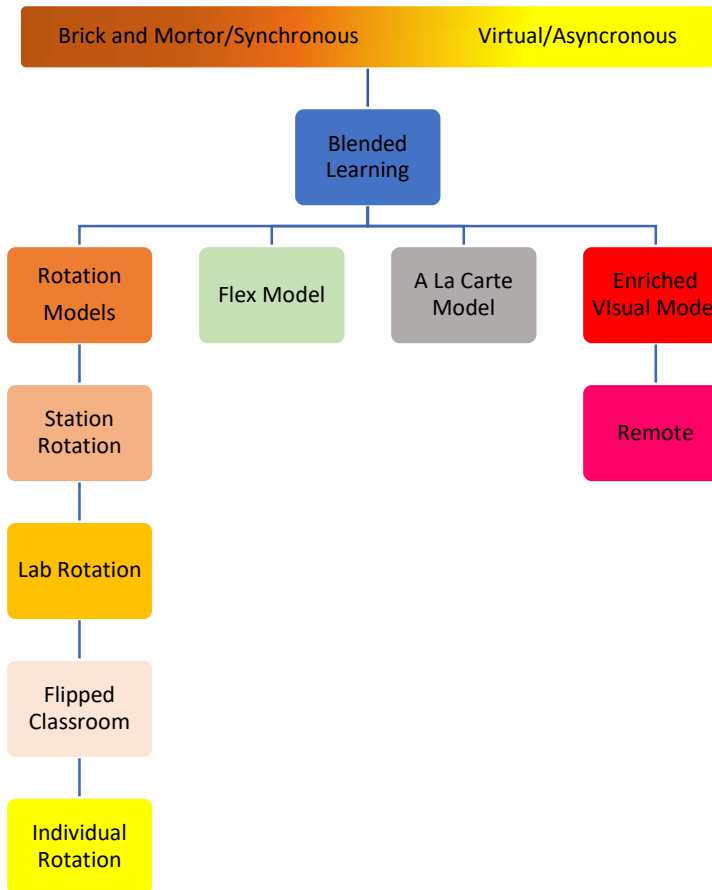
Blended Learning Model Overview

With more access and use of technologies in classrooms, teachers are utilizing blended learning more so than ever (<https://www.ed.gov>), particularly in the K-12 setting (Li & Wang, 2022; Means et al., 2010). There are several blended learning models available for an educator to choose from. Choosing a blended learning methodology demands educator's thoughtful consideration of the learning models available for effective student learning outcomes to yield the most effective teaching and learning outcomes during implementation in the classroom (Horn et al., 2014).

Computer-based blended learning is the overarching umbrella term for a plethora of technology-based learning models (Horn et al., 2014). There are four major approaches to blended learning a K-12 educator might choose from depending on needs in the classroom environment. Horn et al. (2014) outlined the following models in which most blended learning structures resemble: Rotation, Flex, A La Care (AKA self-blend), and Enriched Visual (see Figure 1).

Figure 1

Major Recognized Types of Blended Learning



Notes: <https://www.christenseninstitute.org/blended-learning-definitions-and-models/>

Rotation Models

This category of blended learning has several sub-versions; however, the most common is when students rotate between self-paced online learning and face-to-face instruction. Schedules are fixed but flexible.

Station Rotation. In this model of blended learning students rotate through stations on a schedule, where at least one or more of the students’ workstations is a digital online learning station within the classroom. This model is one of the most common in elementary schools because teachers are already familiar with rotating in “centers” or stations with younger students.

The schedule for station rotation can be fixed meaning the stations remain the same each day; grouped by learning styles; or, depending on the teacher's discretion, change depending on student skills/needs (www.blendedlearning.org).

Lab Rotation. The Lab Rotation model bears similarity to the Station Rotation model because it allows students to rotate through stations on a schedule. The biggest difference is the rotation through digital online learning occurs in a dedicated computer lab versus the classroom. The use of this model permits a more consistent scheduling arrangement between teachers, staff, and paraprofessionals and utilizes existing computer labs within the school (www.blendedlearning.org).

Flipped Classroom. The Flipped Classroom model flips the traditional relationship between class time and homework. Students learn at home via online coursework and lectures, and teachers use class time for teacher-guided practice or projects. This model enables teachers to use class time for more application and practice activities rather than delivering traditional lectures (www.blendedlearning.org).

Individual Rotation. The Individual Rotation model allows students to rotate through stations, but on individual schedules set by a teacher or software algorithm. Unlike other rotation models, students do not necessarily rotate to every station; they rotate only to the activities scheduled on their playlists (www.blendedlearning.org).

Flex. The Flex model lets students move on fluid schedules among learning activities according to their needs. Online learning is the backbone of student learning in a Flex model. Teachers provide support and instruction on a flexible, as-needed basis while students work

through course curriculum and content. This model can give students a high degree of control over their learning (www.blendedlearning.org).

A La Carte (AKA self-blend). The A La Carte model enables students to take an online course with an online teacher of record, in addition to other face-to-face courses, which often provides students with more flexibility over their schedules. A La Carte courses can be a great option when schools cannot provide the student with content specific learning opportunities, such as an Advanced Placement or elective course, making it one of the more popular models in blended high schools (www.blendedlearning.org).

Enriched Visual (Remote). Students complete most of the coursework online at home or outside of school but attend school for required face-to-face learning sessions with a teacher as it is deemed possible or necessary. Across the nation schools used this option during COVID quarantine and school closures (www.blendedlearning.org).

Effects of Blended Learning on Student Outcomes in K-12

The most two recent meta-analyses conducted on online and blended learning in K-12 classrooms were Means et al. (2010) and Li and Wang (2022). Means et al. (2010) was commissioned by the U.S. Department of Education. These meta-analyses were intended to compare in-class, online, and blended learning outcomes. The findings within these meta-analyses show students performing moderately better in blended coursework than their peers in either fully online or face-to-face courses (Li & Wang, 2022; Means et al., 2010). However, a review of literature from 2009 to 2017 showed mixed findings regarding the effects of blended learning on student outcomes within K-12 education (Poirier et al., 2019).

Barriers in Technology

Barriers and challenges in utilizing technology for teaching and learning can be exacerbated by the myriad of changes and various online teaching and learning strategies an educator can choose to utilize. There is an ongoing need to learn innovative technology, hardware, software, and applications along with the implementation of curricula, teaching strategies and techniques to effectively utilize these new educational tools; tasks that take time and effort (Johnson et al., 2016).

Barriers in utilizing technology in the classroom exist for both teachers and students. For teachers, historical challenges to technology integration can be divided into external (first order) barriers including access to resources, training, and support and internal (second order) barriers, including teachers' attitudes and beliefs, resistance toward technology in the classroom, and their knowledge and skills (Ertmer et al., 2013). Today, school districts expect teachers to utilize the available digital technology to create digital learning activities that strategically combine in-person and online activities, a method commonly referred to as blended learning (Borup & Archambault, 2019). While implementing blended learning educators report barriers within these major categories: (a) access to materials, (b) digital literacy particularly with students' lack of skill to succeed in digital learning, and (c) quality of adult professional development, to include the resources, and (d) knowledge of effective pedagogy (Sator & Williams, 2020).

Barriers in utilizing technology in the classroom also exist for students; however, fewer studies have focused on K-12 students' barriers, challenges and motivations with online learning, previous studies on challenges related to online learning have focused primarily on college students and educators' perspectives (Tawfik et al., 2021) however COVID studies have begun appearing (Cui et al., 2021; Peters et al., 2020). Sator and Williams (2020) conducted a literature

review of research from April 2019 to March 2020 analyzing remote learning barriers for students eighteen and older. Categories of personal habits and skills necessary for adult learners, ages eighteen and up, to be successful were identified. The following personal habits and skills were listed as necessary skills for successful online learning (a) time management, (b) study skills, (c) advocacy, (d) social support, and (e) technology (time to learn programs/apps and quality technology hardware). Currently no studies have examined personal skills necessary for successful online learning as identified by K-5 elementary students. However, like other settings, utilizing blended learning in K-5 classrooms requires students to not only learn content across two modalities, but also how to learn in and navigate online environments, often a challenge for some learners (U.S. Department of Education, 2017) Melding the online and the face-to-face portions of the blended learning environment to smoothly align the synchronous and asynchronous lessons becomes critical so as not to make the learning feel disjointed (Borup & Archambault, 2019).

Studies examined the learning barriers of remote learning and hybrid learning impacted during COVID ; however, they were conducted at the secondary level. A report by The Center for Promise (2020) surveyed high school students about their social, emotional, and academic experiences across school and out-of-school-time learning settings. The study reflected students struggled with technology infrastructure access, social emotional support, and less content and learning support (The Center for Promise, 2020)

Statement of the Problem

With increased access to technology, blended learning models have become more prevalent in elementary classrooms. Studies have shown that blended learning can have positive effects on student learning outcomes; however, little research has been done to examine the

experiences or perceptions of students, particularly at the elementary level. There are limited studies that examine K-5 students perceived barriers, challenges, or motivators when participating in digital learning in a flex blended learning classroom. Additionally, there are no K-5 student research studies that identify perceived skills necessary for successful digital learning in a flex blended classroom. Understanding perceived challenges, barriers, needed skills, and motivators of the students themselves provides useful information when planning for instruction and interventions, in providing needed support for pedagogical change, and in addressing barriers and challenges for elementary students engaged in flex blended learning.

Purpose of the Study

The purpose of this study was to examine the experiences of students in a fourth-grade flex blended learning classroom, specifically perceived barriers, motivating aspects, skills, and characteristics needed to be successful. Recommendations for successful implementation of flex blended learning were explored.

It must be noted, the pandemic has changed the education landscape in ways that may complicate education research, with the disruption of in-person instruction nationally since the pandemic hit (Sator & Williams, 2020). Within this study, the student sample gathered may not fully represent a pre-pandemic student population, as student enrollment and attendance have the COVID-19 pandemic concerns (Lieberman, 2020) impacted both.

Research Questions:

There were four questions guiding this study:

1. How do the students in a fourth-grade classroom describe barriers to their participation in flexible blended learning?

2. How do the students in fourth grade classroom describe motivating aspect(s) of flex blended learning?
3. How do students in a fourth-grade classroom describe their own skills and characteristics to be successful in flex blended learning?
4. How do students in a fourth-grade classroom describe changes they would like to see in flex blended learning?

Significance of the Study

This study is significant in several ways. The current knowledge surrounding the implementation of a flexible blended learning model within an upper elementary classroom will be expounded upon through the lived experiences of a fourth-grade teacher and her students. The study offers a deeper understanding of what flexible blended learning could look like in a classroom and insight into what an educator needs to understand with regards to the barriers, challenges, motivators, and skills identified and needed by older elementary students when using flex blended learning. Additionally, the study provides insight into implementation of a flex blended learning model in a Title I upper elementary classroom in a rural Midwest city servicing a socially and economically diverse population including a high Native American population.

Definition of Terms

The researcher developed all the following definitions, unless otherwise cited, to provide clarity and common understanding of the terms used in the study.

Adaptive learning: When software uses a student's interests, responses, and behavior to adapt the learning path and scaffolds.

Blended Learning: An educational program in which a student learns (1) in part through online learning with some element of student control over time, place, path, and/or pace;

(2) in part in a supervised brick-and-mortar location away from home; and (3) the modalities along each student's learning path within a course or subject are connected to provide an integrated learning experience.

Brick and mortar school: A physical school building, employing staff and educators who work with students in the surrounding community.

Differentiation or differentiated instruction: A philosophy that enables teachers to plan strategically to reach the needs of the diverse learners in classrooms today (Tomlinson & Strickland, 2005). The teacher uses student learning data and interests to adjust the learning experience for the student.

Flexible (Flex) model blended learning: Flex model blended learning is a variation of the blended learning family continuum. According to Horn et al. (2014) definition, the student uses online content as the mainstay of their content delivery. The teacher builds flexibility with an adaptable schedule and multiple learning modalities. The student can participate in small and large group activities, individual tutoring, and cooperative learning.

Personalized learning: Describes the situation when students are provided with control and choice over their learning goals, time, place, pace, and path.

Self-efficacy: Wood and Bandura (1989) discussed self-efficacy as "...beliefs in one's capabilities to mobilize the motivation, cognitive resources, and courses of action needed to meet given situational demands" (p. 408). People move toward goals and objectives when they have the belief they will succeed and will avoid or move away from goals and objectives they feel will cause failure (Bandura, 1997).

Social Presence: Behaviors started and supported by people within a social setting.

These behaviors express communication with other individuals in the surrounding environment. These chosen behaviors can be verbal, non-verbal, vocal, and physical distance.

Technology: Any electronic digital device.

Technology Integration: The use of an electronic digital device in a learning environment by either the teacher or the student.

Summary

This chapter presented the research problem, the study purpose and research questions to guide the study. Key terms were listed and defined to provide a reference for their use throughout the study. Chapter 2 provides a review of the relevant literature. Chapter 3 describes the methodology for the study. Chapter four will contain findings and results along with a detailed explanation of those findings. Chapter five will outline the interpretations, conclusions, and recommendations of the results and the findings of the study.

Chapter 2

Review of Literature

Chapter two provides a review of the literature and research related to blended learning environments, specifically regarding barriers, motivators, and necessary skills in K-12 settings. The chapter will be divided into sections that include (a) history of K-12 online, e-learning, and blended instruction in the US, (b) online and blended learning and student outcomes, (c) barriers within K-12 blended learning environments, (d) benefits of blended learning, and (e) skills necessary for success in blended learning environments.

History of K-12 Online, E-learning, and Blended Instruction in the United States

Blended educational learning is not a new concept. The concept of blended education had its beginnings with-in distance education, which initially emerged as mail order courses that began over 150 years ago (Means et al., 2010). Today, blended learning and digital learning is a topic of high interest for many educators, in part due to changing course delivery prompted during COVID-19 when the option of e-learning became a necessity in the education realm. More than 1.5 billion students, or 91.3 percent of global enrollments, were directly affected by school closures at the height of the COVID-19 outbreak in early April 2020 resulting remote learning options (www.unesco.org).

The idea of distance or remote learning was evident as early as 1840, when Sir Isaac Pitman launched the first distance education course using mail correspondence (Pappas, 2015). The advent of computer-based learning became available in the early 1960's (Bersin, 2004). Programmed Logic for Automatic Teaching Operations (PLATO), developed by the University of Illinois in 1963, provided one of the first systems of dedicated online learning via telephone

systems (Bersin, 2004). The learner used a login to access their character-based terminal to access the learning information. PLATO programs attracted students from high school to adult learners and included in-person instruction to produce a blended learning environment (Bersin, 2004).

In the 1970's through the 1980's, television, and the use of CD-ROMs for learning became popular; this learning experience became more interactive and engaging. Learners were able to communicate with their peers, watch the instructor on TV, and even address any questions or concerns via mail; in a sense this form of learning is still in use with email being used for submitting questions and assignments (Pappas, 2015). Learning management systems (LMS) arose with eCollege in 1996, Blackboard in 1997, and in 2001 Moodle came on the scene creating free online access to course work for institutions and students.

The movement from the collegiate adult education realm to K-12 learning environment happened approximately twenty years ago. In 2000, roughly 45,000 K-12 students took an online course. By 2010, over four million students were participating in formal online-learning programs (Watson, 2008a, 2008b). In the early 2000's, state-led online programs or charter and contract schools dominated the K-12 online learning environment. One of the major schools in virtual schooling was K12, Inc.; however, within the decade, technology integration efforts in K-12 classroom had increased, and these were not the formal stand-alone programs or schools of the past. These learning environments utilized the latest technologies and access to information and resources on the Internet (Ross, 2020; Watson, 2008a, 2008b).

The COVID-19 pandemic gave rise to a worldwide exponential increase in students learning via remote options (online only or distance/correspondence) or hybrid learning (combination of face to face and remote learning) (UNESCO, 2020). Before COVID-19, most

online instruction in the United States was either asynchronous in nature (Molnar et al., 2019), or a blend of online and face-to-face instruction (Amro & Borup, 2019; Futch et al., 2016; Gurley L. E, 2018; Halverson & Graham, 2019; Park & Shea, 2020; Powell et al., 2015). Therefore, the findings from studies conducted in these contexts have limited generalizability to the specific context of full-time and synchronous online teaching in K-12 classrooms. The future of blended learning will need to include a place for remote and hybrid learning, with the possibility of the need for a massive rollout (Stein & Graham, 2020). Educators working in the modern classroom need to critically evaluate multiple factors that influence the choice of platform, most specifically digital readiness, student age, and academic subject (Stein & Graham, 2020).

Online and Blended Learning and Student Outcomes

Hattie (2009, 2015) published meta-analyses of over eight hundred research studies; within the meta-analyses the effectiveness and influences of blended learning and student learning outcomes was examined. Hattie found that the majority of studies examined how teachers use computers in instruction with fewer studies about how students use computers for learning. To identify strategies, both teacher-led and student led, a list of student and teacher strategies and their effect on learning outcomes was compiled (Hattie, 2009, 2015).

Hattie (2009, 2015) found in blended learning classrooms, the more face-to-face interactions teachers have with students, the greater the positive effects on learning outcomes. Another finding was that isolated use of technology in class may have a small effect size on student learning. It was also found technology positively impacts accelerated learning and allows teachers to do more in the classroom. Hattie's (2009, 2015) findings support use of technology in the K-12 classroom recognizing technology can provide opportunities for teachers to facilitate differentiated instruction by creating opportunity and time for face-to-face teacher feedback,

response to intervention groups, teacher-student discussions, and small group learning, all which are shown to increase student success. The effective use of technology in the classroom allows teachers to add leverage, to gain more opportunities or time for face-to-face interactions which increases learning effects. Hattie also found that utilization of educational tools like Showme, Edpuzzle, Edulastic, OneNote, Padlet, and various other technology applications have a positive effect on learning outcomes with varying effect sizes depending upon tool utilization with effect sizes ranging from .20 to .60. Hattie (2009) concluded the benefits of technological implementation have the most effect:

(a) when there is a diversity of teaching strategies; (b) when there is a pre-training in the use of computers as a teaching and learning tool; (c) when there are multiple opportunities for learning; (d) when the student, not the teacher is in “control” of learning; (e) when peer learning is optimized; and (f) when feedback is optimized. (p. 221)

A seminal meta-analysis done by Means et al. (2010) included more than one thousand different empirical studies on online learning from 1996-2008. This study examined fifty effects and found 45 qualifying studies which compared a fully or partially online condition with a fully face-to-face instructional condition. Nine of the studies used a blended learning approach. No experimental or controlled quasi-experimental studies which compared the learning effectiveness of online and face-to-face instruction for K–12 students were found, therefore no data for K-12 were included in the meta-analysis using studies from 1996 to 2006; the researchers extended their search to 2008 to find additional studies to include for K-12. The researchers examined

the studies in three distinct categories. These categories were, (a) purely online versus face-to-face; (b) blended versus face-to-face; (c) learner types.

When studies for the meta-analysis were examined comparing learners' groups to learner types; the K–12 students had five qualifying studies out of eighty-four.

Undergraduate students were the largest group of the eighty-four studies, followed by other types of learners including graduate students and individuals receiving job-related training. The researchers compiled a group of fifty independent effects within those studies.

Means et al. (2010) found “students in online learning conditions performed modestly better than those receiving face-to-face instruction” (pg.2); however, differences in performance were related to blended learning models, not solely online instruction. “On average, there is no significant differences between purely online and purely face-to face learning and there may be modest advantages to blended learning approaches” (Means et al., 2010, p. 22). Due to the small number of K-12 studies included, the positive effect size on the effectiveness of online learning approaches should be approached with caution.

The most recent study done by Li and Wang (2022) suggests when comparing K-12 settings to higher education environments, blended learning seems to produce more favorable outcomes. The authors further explained the reason for this difference could be that blended learning environments in K-12 classrooms typically involve greater teacher-student interaction and supervision compared to higher education. As a result, students' needs for relationships (with both the teacher and their peers), autonomy, and competence are more likely to be fulfilled, leading to increased motivation and improved learning

outcomes (Abeysekera & Dawson, 2015). Means et al. (2010) reported a smaller effect size for blended learning in K-12 settings with $g = 0.17$ ($p > 0.05$), which is smaller than the overall effect size found in the Li and Wang (2022) meta-analysis. One explanation for this difference could be the inclusion of more recent studies in the Li and Wang (2022) study, which covers a wider time range from 2000 to 2020 than the Means et al. (2010) study. Moreover, K-12 students of Generation Z grew up in the digital era and possess digital literacy skills that make them more at ease with blended learning, which may have contributed to the enhanced outcomes. Overall, the findings of (Li & Wang, 2022) align with prior studies that suggest the impact of blended learning can differ depending on the specific domains of performance being evaluated, along with parallel finding stating blended learning has a positive effect on student performance (Fernández-Cruz & Fernández-Díaz, 2016; Prensky, 2001)).

Math and STEM Learning Outcomes

O'Dwyer et al. (2007) conducted a quasi-experimental study using a pre-post design to examine differences in high school student success and attitude in Algebra I online courses and traditional face-to-face courses. The sample included thirty-three classrooms in multiple districts and schools with a total of 463 students. The results showed that while more online students reported an unsatisfactory experience and less confidence in their algebra skills, they performed better overall, scoring higher on eighteen of the 25 items in the posttest with a medium effect size of +0.37. The study also included a group membership analysis, which revealed that there was no statistically significant link between group membership and posttest scores.

Hughes et al. (2007) examined differences between high school algebra students enrolled in online sections and those enrolled in face-to-face conventional sections. While conventional

students had a stronger view of student cohesiveness, involvement, and collaboration, online students had higher algebra posttest scores and perceptions of instructor support, with 16% of the variance in posttest results explained by school type.

Fazal and Bryant (2019) found benefits of blended learning in math outcomes for middle school students not meeting grade level expectations. Blended learning was more effective than traditional instruction in accelerated growth in math learning for these students.

Another study examined blended learning and student outcomes in STEM. Seage and Türeğün (2020) found means scores for students participating in blended learning to be statistically significantly higher than mean scores for traditional instruction for all four content areas: science, technology, engineering, and mathematics.

ELA Learning Outcomes

A study conducted by Rahman and Azmi (2020) found no perceptible difference between the experimental group and control group regarding blended learning and students' writing performance. The study's overall findings indicate that both online and traditional face-to-face instruction have a place in writing and that providing students access to online materials, resources, and programming available in blended learning models may increase learning viability, fulfillment, and productivity in some students. It was recommended teachers develop into multifaceted professionals who are able to use the best methods to advance the teaching and learning of writing.

A study by Kannianen et al. (2021) explored the relationship between teacher-rated difficulties in attention and executive function and their comprehensions skills, measured by a multiple-choice task and an online research and comprehension (ORC) with problem solving

task. The study found that teachers rated difficulties in attention and executive function (EF) were related to student performance more so in the problem-solving task than the multiple-choice task; the problem-solving task being more challenging. The results indicate students may benefit from more teacher support when engaging in ORC problem solving tasks. Additionally, breaking problem-solving tasks into smaller, more manageable components may be helpful for students with attention and EF difficulties, as it can help them focus their attention on one aspect at a time. Structured tasks within a more controlled environment when utilizing (ORC) problem solving tasks may be particularly beneficial in this regard. It is important to consider the individual needs and abilities of each student when designing and implementing internet-based learning activities (Kanniainen et al., 2021).

A study by Sergi et al. (2022) examined differences in second through fifth grade students' self-regulated processes when reading assignments on the computer versus paper copies. The study found students demonstrated use of higher levels of conditional knowledge during their paper-based reading tasks than computer-based reading tasks. However, an additional finding showed the students used evaluation processes more during computer-based reading. There were no grade- or condition-associated differences in other metacognitive self-regulated learning (SRL) skills. These findings suggest that students may benefit from explicit instruction in metacognitive SRL skills and the opportunity to practice applying these skills in both computer-based and paper-based reading tasks. Sergi et al. (2022) suggest teachers consider the differences in reading modes and how they may impact students' use of metacognitive SRL skills.

A study by Wood et al. (2017) examined online and offline software usage in an elementary classroom. The authors explain the importance of considering the strengths and

weaknesses of both online and offline early literacy software programs when choosing a potential program for young learners. The researchers state potential strengths of online programs include the ability to provide a larger number of skills and sub-skills, as well as the potential for more interactive and engaging instruction. The study notes as well, it is also important to consider the quality of the instruction and the support provided to scaffold learning as a function of performance, as these can vary significantly among online programs. Offline programs may have the advantage of being more accessible, as they do not require an internet connection, but they may be limited in the number of skills they can teach and the level of interactivity they can provide. The most effective program will depend on the individual needs and learning style of the young learner (Wood et al., 2017).

Barriers Within K-12 Blended Learning Environments

There are barriers when it comes to implementation of blended learning in classrooms, including elementary classroom, both for teachers and students. Challenges frequently arise as students interact in ever-more complex digital settings using blended and online learning pedagogies; this calls for the teacher to be knowledgeable, adaptable, and flexible to meet students' needs (Hammerness, et al., 2005; O'Donnell, 2008).

Lack of Educator Preparation and Training

Dukes et al. (2006) point out that many educators may not have the knowledge, skills, and attitudes to teach technology-based classes and frequently lack crucial instructional and technical training. Teachers are often left to find training, support, resources, and tools on their own and often use their own funds to do so.

Howard et al. (2021) study, conducted after the 2020 post COVID pandemic initial outbreak, found many educators felt they lacked online readiness, struggled to adapt to online

instruction, and experienced a lack of institutional preparedness contributing to their ability to adapt. Pedagogical gaps regarding online instruction became more apparent after the influx of educators working with online learning in 2020 during the Covid pandemic (Howard et al., 2021). Not surprisingly, even if a teacher has been successful in conventional face-to-face teaching, making the shift to synchronous online instruction can be an intimidating task, especially in urgent situations where there is limited time for deliberate preparation and development of course materials (Archambault et al., 2016; Arnesen et al., 2019; Geiger & Dawson, 2020).

Spiteri and Rundgren (2020) identified factors that impact teacher behavior in using a blended learning model; these fell under four main categories, namely school culture, teacher knowledge level, attitude, and skills, according to Spiteri and Rundgren (2020), the availability of adequate knowledge and support is a crucial factor that influences teachers' utilization of technology within their instructional practices. Additionally, when a teacher is considering implementation of any form of blended learning, many proponents argue teachers need to feel prepared or able to provide their students with the level of instructional support needed (Amro & Borup, 2019; Crawford & Jenkins, 2018; Kaleta et al., 2007; Lee & Im Y, 2006).

Teachers need to align instructional goals to the digital tools they use in more meaningful, effective, and sophisticated ways; something many educators struggle with (Sain & Bowen, 2022). Avçi (2022) found that even though digital teaching materials are cost-free for teachers, as most districts will purchase the apps or programs to use, the time required to learn, create, and implement these district resources comes at a personal cost. The time required to effectively implement instructional technologies is potentially a personal loss for educators, a loss of personal time to experiment, learn, and implement; therefore, the cost incurred by

teachers in utilizing digital teaching materials is their time; time in training and time for implementation and planning. Consequently, despite the availability of numerous digital tools and materials for teachers, these tools and materials are not being utilized effectively in classrooms. Teachers are significantly underutilizing digital learning resources (Ardci 2021; Çiçek, 2019; Celebi, 2019; Köde & Çoklar, 2020; Savasci, 2014).

Lastly, the literature posits professional development and teacher training in online learning in general has not kept pace with the growth of online learning in K-12 classrooms (Sikor & Barbour, 2022). Rice et al., (2007) found approximately 40% of all K-12 online teachers received limited training prior to teaching online. Due to lack of knowledge, experience, and training in online lesson development, when teachers were required to teach online because of school closures due to Covid-19, many educators struggled with changing their lesson formats appropriately (Sikor & Barbour, 2022). Graham et al. (2019) identifies ongoing training and support for teachers as critical for successful implementation of technology in elementary classrooms. Similarly, Reimers et al., (2020) calls for adequate funding and professional development opportunities to address the challenges of technology integration in blended learning environments. Parks et al. (2016) postulated that tailoring professional development to meet the unique needs of individual teachers and addressing critical pedagogical gaps of students can lead to significant success for educators in blended classrooms.

Managing Motivation, Independence, and Engagement.

Positive relationships between blended learning and student engagement have been found in the research (Al Mosawi & Wali, 2015; Chai, 2017; Fisher et al., 2018); however, other studies found no associations between blended learning and student engagement (Henrie et al., 2015). Educators choosing to use blended learning must be aware of the myriad of barriers that

impact student motivation and engagement and utilize specific strategies to support students when integrating new educational models and approaches (Fryer & Bovee, 2016).

Persistence, direction, and intensity form the three pillars of motivation and engagement (Serin, 2018). The literature shows students will avoid an assignment if they think it will be dull or too difficult, and when given projects that they perceive to be enjoyable, moderately difficult, and demanding, students are more likely to engage. Students' perceptions of the task's relevance also play a major role in determining whether they are motivated to complete the task (Eccles et al., 1983).

Students' ability to work independently and adapt to the increased demands for efficient self-management of their time is a struggle for some elementary students (Larsen, 2012); one challenge is to stay focused when completing tasks independently (Rao et al. 2021). Blended learning requires a certain amount of independence on the part of the learner, typically because there is less support from teachers and peers in online learning; accordingly, perception of less peer connection can make pupils feel isolated and even demotivate them. (Rao et al., 2021). Research has shown students may struggle with higher levels of independence, getting off track and/or missing assignments; it can feel daunting to try to catch up; students may just disengage (Rao et al., 2021; Wijsman et al., 2018). Not surprisingly, navigation of student engagement levels in a blended learning relates to the teachers' beliefs about their capacity to influence students' engagement level; the teacher is impacted by their digital competence, other stress inducing factors, the capacity to exert leadership in class, knowledge on how to design lessons for engagement, and knowledge on how to manage student engagement levels (Sain & Bowen, 2022).

Related to students' ability to work independently, self-regulation has been found to be a barrier in online and blended learning, often manifesting as procrastination (AlJarrah et al., 2018; Lombard et al., 2002; Maycock et al., 2018; Sun et al., 2017). When it comes to self-regulation, students can experience acquired helplessness, lack coping mechanisms, and have difficulty applying feedback (Rao et al., 2021). It should be noted, despite students' ability to apply feedback, providing feedback is important because without it, students can feel unsure of whether they are meeting goals and expectations (Rao et al., 2021). Other barriers associated with online and blended learning, particularly as it relates to the ability to work independently and self-regulate, include improper time management (Broadbent, 2017; Zacharis, 2015), and inadequate use of online peer learning and help-seeking strategies (Broadbent, 2017).

Despite identified challenges and barriers, online learning devices include elements that can promote motivation, engagement, and self-regulation. For example, studies have found students claim to be having more fun when engaging in online learning; also, specific apps or online testing tools can provide immediate feedback on student performance (Al Mosawi & Wali, 2015; Fisher et al., 2018).

Computer and Technology Issues

Van Dijk et al., (2020) emphasize the importance of investing in technology infrastructure and resources to ensure equitable access to learning tools for all students; accessibility issues can be a barrier or challenge when implemented blended learning. In some cases, whether at home or school, students may have limited or no access to devices, have malfunctioning devices or may encounter slow internet speeds (Chandra et al., 2020). With more demand for technology integration, it is crucial for educators, policymakers, and stakeholders to collaborate in providing sustainable solutions to the classroom challenges associated with

technology (Pape, 2022). The current research outlines the following challenges with technology in education:

- a) **Inadequate or Outdated Technology:** Schools may not have the resources to provide up-to-date technology for all students, which can lead to disparities in access and usage. Older devices may also be less reliable and have slower processing speeds, which can hinder student learning (Bai & Ertmer, 2008; Hainey et al., 2016).
- b) **Technical Difficulties:** Technical problems such as connectivity issues, software glitches, and hardware malfunctions can interrupt instruction and cause frustration for both students and teachers (Bernard et al., 2014; Warschauer, 2011b).
- c) **Online Distractions:** The internet can be a source of distraction for students, particularly in the form of social media, gaming, and other non-educational websites. This can interfere with their ability to focus on classroom content and complete assignments (Manca & Ranieri, 2016).
- d) **Lack of Social Interaction:** While blended learning can offer many benefits, such as flexibility and personalized instruction, it can also be isolating for students who may miss out on the social interactions and support that come with traditional classroom learning (Dede, 2009; Garbe et al., 2020).
- e) **Limited Teacher Training:** Many teachers may not have adequate training or support to effectively integrate technology into their teaching practice, which can lead to challenges in classroom management, lesson planning, and student engagement (Spiteri and Rundgren (2020)).

Additionally, the COVID-19 pandemic has had a significant impact on online learning, and elementary students have faced numerous challenges related to technology during the lockdown.

Student challenges of online learning identified in the literature include:

- a) **Limited Access to Devices:** Many elementary students do not have access to personal devices like laptops or tablets, and schools may not have enough devices to distribute to all students. This makes it difficult for students to participate in online classes and complete assignments (Cavanaugh et al., 2009; National Center for Education Statistics, 2020).
- b) **Lack of Reliable Internet Connection:** In many areas, internet connectivity can be unreliable, and this can cause difficulties for students trying to participate in online classes. Poor internet connections can also lead to video and audio buffering, making it difficult to follow the lessons (Greenhow, et al., 2020).
- c) **Technical Difficulties:** Technology can be unpredictable, and students may encounter issues with hardware, software, or connectivity that can prevent them from participating in online classes or completing assignments. Younger students may not have the technical skills needed to troubleshoot these issues (Bernard, et al., 2014; Warschauer, 2011).
- d) **Difficulty Staying Engaged:** Online classes can be challenging for younger students, who may struggle to stay engaged and focused for extended periods of time. This can lead to difficulties in understanding the material and completing assignments (Carter et al., 2020).
- e) **Lack of Personal Interaction:** Distance learning can be isolating, and young students may miss the social interaction and support they get from their teachers and peers in a

traditional classroom setting. This can impact their emotional well-being and academic progress (Dede, 2009).

Additionally, there are specific areas of concern when using technology and online learning with young students. One area of concern is the impact of technology on fine motor skills. While touchscreen devices have been found to have a positive effect on children's fine motor skills (Souto et al., 2020), other studies have highlighted the importance of balancing digital device use with other forms of play that support the development of other skills (Alqahtani, 2021). Furthermore, issues with mouse control, dragging and dropping, and keyboard use can pose challenges for young children when using computers (Holz & Meurers, 2021, Souto et al., 2020). Another potential computer issue that can arise when young students use technology is struggling with basic computer skills such as logging in, navigating different software programs, and using the internet for research (Dunleavy & Dede, 2014).

Distractions in the 21st Century Elementary Classroom

Internal and external distractions abound in classrooms, and distractions in blended learning classrooms are not the exception (Baraño et al., 2022). This section will explore the current research on distractions associated with blended learning.

Internal Distractions. In a study by Leech et al. (2022) and interviews by Rae (2020) challenges and distractions for K-12 students engaging in online learning at home during the COVID quarantine were examined. According to the Leech et al. (2022) study, teachers encountered several challenges while teaching across various grade levels. Shared challenges included difficulties in engaging students, adapting the curriculum to fit the remote format, and missing the personal connection that comes with in-person teaching; the nature of these challenges differed based on the grade level being taught. Specifically, elementary school

teachers reported facing more difficulties in adjusting to the online format and accommodating varying attitudes of parents towards remote learning, while secondary school teachers frequently mentioned student engagement and a general feeling of being unsupported or lost in their teaching (Leech, 2022). Rae (2020) interviewed students from difference schools across the United States to examine their experiences with remote learning during COVID lockdown; several challenges were identified. Some students felt less productive despite having more free time and missed the social aspect of school. The shift to remote learning created challenges such as difficulty with online interactions and distractions at home. Slow internet and lack of access to technology was a challenge for some, while others struggled to stay motivated and focused. However, some students identified ways to adapt to remote learning by using methods like taking it one day at a time.

A study done in the Philippines with 10th grade students examined distractions and coping mechanisms in blended learning within a classroom context (Barañaño et al., 2022). The findings show that internal distractions, like fatigue, hunger, emotions, and anxieties, are more likely to divert a student's attention compared to distractions that originate from an external source, like a study environment free from auditory distractions (Barañaño et al., 2022).

Environmental Distractions. Hoang et al. (2022) found few studies consider the environmental factors associated with virtual learning, such as light, noise, and temperature in relation to learning outcomes. Hoang et al. (2022) discovered academic performance, attentiveness, and comfort of online students can be influenced by their environment, which may impact their grades, educational outcomes, and determination to complete their studies; therefore, ensuring the learners' contentment is crucial in maximizing their potential. Similarly, in a neuroscience study by Vander Ghinst et al., (2019) which looked at the ability of children

between the ages of 6 and 9 to track and differentiate between voices in the presence of background noise, such as other sounds or voices, is more challenging for their developing brains compared to adults.

Research on Low-Level Classroom Disruption (LLCD) identified a range of common behaviors that are considered a normal part of daily classroom life in elementary schools, such as rocking on a chair or whispering to a neighbor. According to Ofsted (2014) and Sullivan et al. (2014), LLCD occurs multiple times a day and includes actions like fidgeting, talking unnecessarily, distracting others, and daydreaming. Typically defined as surface-level behaviors and often referred to as involuntary or even impulsive behaviors (Esturgó-Deu & Sala-Roca, 2010; Tennant, 2004), these behaviors do not typically disrupt instruction but may be distracting to oneself or others (Kreisberg, 2017).

Computer and Technological Distractions. McCoy (2020) compared the frequency and duration of student classroom digital distractions in the years 2016 and 2020 to compare Millennials to Generation Z students and found the decline in frequency and duration of student classroom digital distractions between the two groups. McCoy (2020) suggests this is due to exposure to the digital world; social media, constant connectivity and on-demand streaming service have always been present in Generation Z's lives, unlike Millennials that grew into the trend, allowing Generation Z to block out more of the distraction digital media poses. There may also be differences in digital world exposure for under-served populations. Graafland (2018) synthesized research on various technological risks and trends in classrooms for student 10 to 18 years of age. Differences were found in online usage when examining factors of economic, social, and cultural status. Additionally, there may be differences in gender in relation to digital distractions; the results of a study by Bartholomew (2018) suggest that children may behave

differently in the digital classroom because of what they watch on screens outside of school. Boys were more easily excited or distracted due to viewing choices outside of class when compared to girls, consequently affecting their attention in other aspects or settings; for example, making it harder for them to focus on digital tasks during class.

Video Lecture/lesson Disadvantages

Video lectures/lessons are often used in blended learning environments; however, some drawbacks of video lectures/lessons have been identified. The literature highlights several challenges, with many of them pertaining to the initial recording of the lectures. Researchers have discovered that a considerable number of faculty members lack the necessary time, resources, or technical skills to create high-quality asynchronous video lectures, as seen in studies by Dinmore (2019) and Valenti et al. (2019). Several studies have also raised concerns about the accessibility of video lectures for all students, particularly regarding issues with accessibility and broadband/Internet access (Dinmore, 2019). Moreover, studies have identified problems with tracking student engagement with video lectures (Beale et al., 2014) and some students just dislike and/or avoid watching video lectures (Geri et al., 2014). An additional drawback is discussed by Fisher et al. (2017) noting the inability of the instructor or students to adjust the lesson pace depending on students' prior knowledge or questions; in this sense there is less pace control when using pre-recorded lectures beyond the learners' ability to pause, rewind, or fast forward the program at specific intervals.

In a similar study, Ilin (2022) notes learners have individual differences, and it is challenging to determine how to tailor the content of video lessons to students' specific needs due to a lack of relevant data. Ilin (2022) conducted a study examining 13-year-old students engagement with video lessons, The study concluded relying solely on video lessons is

insufficient to captivate learners, and there is no one-size-fits-all learning digital format approach that works for everyone. To engage diverse types of learners, Ilin (2022) points out it is important to vary the ways in which knowledge is presented to the learner; the educator must analyze the audience's preferences so possible maximum engagement can be achieved.

Video lectures have traditionally been viewed as passive presentations of information, which may be partly due to limitations of most media players, as well as to traditional conceptions of a lecture (Blackstock et al., 2017). However, researchers are increasingly exploring the advantages of incorporating various forms of interactivity into video lectures, such as quizzing, polling, drag-and-drop, and annotation (Cundell & Sheepy, 2018; Donkin et al., 2019; Fish et al., 2016; Fleischmann, 2021; Goldingay & Land, 2014; Taylor et al., 2015).

Studies have indicated that the benefits of adding interactivity to asynchronous video lectures include increased student engagement and retention (Fleischmann, 2021), as well as the ability to provide learners with instantaneous feedback (Donkin et al., 2019). However, excessive on-screen interactions may hinder learning, as noted by research (Fish et al., 2016).

Benefits of Blended Learning

In addition to barriers of implementing blended learning, there are also benefits. Ironically the benefits of implementing blended learning were also identified as challenges in some cases; for example, self-regulation can be a deterrent or motivator, depending on the self-regulation control of the student and/or learning situation; student engagement can be enhanced or hindered by blended learning, again dependent on the student and/or learning situation.

Opportunities for Self-Regulated Learning

Since Covid-19 erupted onto the world scene, there has been an increase in studies examining students' efficacy of blended learning, highlighting the significance of students' self-regulation in these settings (Broadbent, 2017; Jansen et al., 2019). Lai et al. (2018). examined the effects of self-regulation in computer-supported science inquiry. The findings were in line with previous research by Lai and Hwang (2016) that higher self-regulated students were more adept at self-regulated computer-supported science inquiry than their lower self-regulated counterparts. Liang et al. (2016) propose that students who are already skilled in self-regulation may be able to adapt to self-regulated learning approaches, like blended learning, more readily.

Gamification

Current studies report digital games are an effective educational tool that can enhance students' motivation, attitude, and academic performance (Bai et al., 2012; Beserra et al., 2014; Lin et al., 2013; Rayya & Hamdi, 2001; Vogel et al., 2006; Yeh et al., 2019). One such benefit of educational video games is the ability to incorporate formative assessment within the game, providing players with regular and relevant feedback on their learning progress (Guillén-Nieto & Aleson-Carbonell, 2012; Sharritt & Suthers, 2011). By offering ongoing assessment within educational video games, players can continuously evaluate and adjust their strategies while engaging in the learning task (Gee, 2003). Embedded assessments also provide helpful information on current levels of student progress, as these assessments may lessen the Hawthorne Effect, where students may behave differently during the assessment and observation time (Holmes et al., 2012).

Additionally, playing educational video games points to higher motivation to learn as the repercussions of failure are less severe in comparison to traditional teaching and learning methods (Juul, 2013; Salen & Tekinbaş, 2008; Sharritt & Suthers, 2011). Erhel and Jamet (2013) found a gaming environment can enhance learning and motivation by incorporating features such as feedback, which encourage players to actively engage with the educational content being taught. Dvijak and Tomić's (2011) study revealed that the utilization of mathematical computer games in teaching promotes the development of a positive attitude toward mathematics, which is perceived as a challenging subject among students of various age groups. Furthermore, the authors point out that incorporating mathematical computer games into the teaching process leads to heightened motivation, quicker knowledge acquisition, and long-term retention, compared to conventional teaching methods.

Video Lecture/Lesson Advantages

Despite the disadvantages of using video lectures/lessons, there are also proven benefits. One benefit of video lectures/lessons is the level of control that students have over the material. When using video lectures/lessons students can utilize a media player's default settings (such as pause, play, rewind, and fast-forward) to control the video lecture/lesson suggesting greater control potentially increasing student agency (Beale et al., 2014; Chen & Wu, 2015; Hajhashemi et al., 2016; Valenti et al., 2019). Moreover, video lectures/lessons can be especially beneficial for at-risk students who may require repetition of material. Additionally, video lectures/lessons allow students to see their online instructors, potentially increasing teacher presence, which can have an impact on student learning outcomes (Chen & Wu, 2015).

Skills Necessary for Success in Blended Learning

There are various skills and characteristics necessary to succeed in blended learning environments. Rasheed et al. (2020) found self-regulation to be an important skill for success in blended learning. Although it was found self-regulation may not be as critical for students in blended learning compared to those enrolled in fully online courses, self-regulating behavior was still an important skill for student's success in both modalities. As a caution, the autonomy and adaptability afforded by blended and online learning environments can often lead to students developing inadequate self-regulation skills (Rasheed et al., 2020).

Sikor and Barbour's (2022) findings outline the development of the soft skills necessary for success in online environments, like time management, communication skills, and listening skills, all of which are not age dependent. The authors' note the duty for fostering the improvement of soft skills falls to the adults in the online student's life. Similarly, a study by Kiekel (2007) found management of learning to be an important skill needed in blended learning environments. Kiekel (2007) found a significant disadvantage for K-12 students in online courses and blended learning classrooms was their lack of experience in managing their own learning. As students make the shift towards becoming more accountable for their learning, they require guidance and oversight from teachers (Kiekel, 2007).

Tovmasyan et al. (2023) studied the impact of personality traits on student satisfaction with blended learning in higher education. The purpose of the study was to investigate the relationship between Big-5 personality traits and student satisfaction with blended learning during the COVID-19 pandemic. The study found that low extraversion and high neuroticism predicted higher levels of student satisfaction, while other personality traits did not have a significant effect. The findings are different from previous studies, which may be due to social

factors during the pandemic. The authors suggest that a blended model could be used in the future to improve the student experience depending on their personality type.

There is a paucity of information with regards to studies done with elementary students and the impact of personality traits on blended learning. A study conducted at the elementary level examined motivation and self-esteem of students engaging in blended learning; there was not a significant effect on student motivation or self-esteem within the confines of the study (Ito et al., 2019).

Summary

This chapter provided a review of the literature and research related to blended learning environments, specifically regarding barriers, motivators and necessary skills in K-12 settings. The chapter was divided into sections that include (a) history of K-12 online, e-learning, and blended instruction in the US, (b) online and blended learning and student outcomes, (c) barriers within K-12 blended learning environments, (d) benefits of blended learning, and (e) skills necessary for success in blended learning environments.

The next chapter discusses the methodology of this study.

Chapter 3

Methodology

A phenomenological approach was used in this study involving a group of individuals who experienced a phenomenon; focus groups were the primary source of data. Phenomenology is a qualitative research approach that seeks to understand the lived experiences of individuals in a particular context (Creswell & Poth, 2018). In this case, the personal and individual experiences of fourth-grade students participating in flexible blended learning. The following information is presented in this chapter: research questions, a brief discussion of the research methods, a description of participants, procedures for data collection, and data analysis.

The purpose of this study was to examine the lived experiences of fourth-grade students within a flex blended learning classroom and develop an understanding of the students' perceptions of this learning environment. Specifically perceived barriers, motivating aspects, skills, and characteristics students need to be successful, along with recommendations for successful implementation of flexible blended learning are explored.

The researcher used a phenomenological approach to achieve a deeper understanding of the phenomenon (Creswell & Poth, 2018). The students in the study were diverse academically, socially, and behaviorally. When teachers have a better understanding of both a student's academic capability and their social-emotional learning (SEL), they are better able to tailor their teaching and coaching activities to fit that student's individual academic needs. By studying students' perceived barriers, motivation, and engaging aspects in flex blended learning classrooms, educators can consider this information in their planning.

The primary research questions were:

1. How do the students in a fourth-grade classroom describe barriers to their participation in flex blended learning?
2. How do the students in a fourth-grade classroom describe motivating aspect(s) of flex blended learning?
3. How do students in a fourth-grade classroom describe their own skills and characteristics to be successful in flex blended learning?
4. How do students in a fourth-grade classroom describe changes they would like to see in flex blended learning?

Overview of Phenomenological Approach

This study used a phenomenological qualitative methods approach. Phenomenology is a qualitative research approach that seeks to understand the lived experiences of individuals in a particular context (Creswell & Poth, 2018). This approach is suitable for exploring complex and subjective phenomena, in this case the lived experiences of 4th grade students participating in blended learning.

One characteristic of qualitative research is fieldwork (Merriam, 2009) the researcher is physically present in the setting where the inquiry is taking place. In qualitative research, the researcher is the instrument of data collection and analysis; the researcher in this study collected data, observed, and annotated the practical and daily happenings of the case, and conducted focus group interviews (Creswell & Poth, 2018). The researcher as the instrument allowed for deep reflection on the meanings of the observations and the interviews and allowed the researcher to choose and create materials most relevant to the context rather than use questionnaires and surveys created by another researcher. In using qualitative research, the researcher is in a unique place within the research environment; the researcher as the instrument

can use their flexibility, on-the-spot responsiveness, and situational sensitivity to create the tool for understanding and meaning (Lincoln & Guba, 1985). Additionally, the researcher can develop a relationship allowing for a safe space for the subjects to ask, answer and share their stories about their experiences (Owen, 2007).

In this study, the teacher of record was also the researcher; therefore, there was a known professional or personal relationship between the students and the researcher. It is noted, regardless of intentions, there may be a perception of a conflict of interest based on the actions of the researcher and the dependence of the participants (Lemmens & Singer, 1998). Due to this potential conflict of interest or influence, this relationship may have had on student responses, research assistants conducted the focus group discussion with students. Using research assistants ensured the data collected was unaffected by the power relationship between the students and the teacher. The data was made anonymous prior to teacher's/researcher's analysis, thus maintaining student confidentiality, and removing the conflict of interest as much as possible.

A critical role of the researcher is to be as ethically minded as possible throughout the entire process of research (Creswell, 2013). The teacher in the role of a researcher must have a strong focus on the plausibility and evolution of the students' experience (van Manen, 2014), in this study in a blended learning environment. As the researcher and the educator, I was aware of my biases and how they shaped the questions I asked, the data I collected, and most importantly, the analysis of the data (Drisko, 1997). Research biases are identified in the "Research Assumptions" section of this chapter.

Another bias in qualitative research is the subjective perspective. Subjective perspectives allow multiple truths and objectivity are neither possible nor desirable (Feyerabend, 1978). Researcher subjectivity is the "amalgam of the persuasions that stem from the circumstances of

one's class, statuses, and values interacting with the particulars of one's object of investigation" (Peshkin, 1988, p. 17). To account for subjective perspective, the researcher should ask themselves, "How do I know my subjectivity is engaged?" (Peshkin, 1988, p. 18). The researcher's subjectivity is aroused when positive and negative emotions arise during research, pulling the researcher in one direction or another; the researcher is not reflecting on the push and pull dynamics in the relationships of the environment. The researcher should methodically seek out their inherent subjectivity, not with hindsight when the data has been collected and the analysis completed, but while their research is actively in progress; in this study research bias was addressed by utilizing a researcher journal.

Researcher Assumptions

The context for this study is a fourth-grade flexible blended learning classroom. At the time of this study, the researcher was the classroom teacher. I have been teaching in K-5 elementary school for eight years. It is critical to identify the assumptions and biases the I hold before starting a study as the experiences I have as a frame of reference could influence the way the I view the data from the study (Creswell, 2013).

The first assumption I had regarding flexible blended learning is I believed using flex blended learning in a fourth-grade classroom allows for greater differentiation and modification for the varied needs of the students. At the time of the study in my classroom, online lessons were adapted and modified for the students' capabilities to account for the zone of proximal development (Vygotsky, 1987). As the teacher, I took on the role of facilitator and guide, conferring with students one on one, in small, and whole group. Students oversaw their own learning; students were able to learn at their own pace through video and playlists.

The second assumption I held is flex blended learning will permit the students to engage in productive challenges as mentioned work was designed to be within the students' ZPD. I believe that students can become independent learners; they must learn to persist in the face of challenges without excessive assistance. Each student needs to learn they are knowledgeable, self-determined strategic, and empathetic thinkers.

The third assumption I held is students will be able to provide a rich source of information about self-reported barriers, motivating, and engaging aspects in the flex blended learning classroom. The participants' perspectives are meaningful and will be able to be made explicit to deepen and enhance the learning of the reader.

Study Description

The selected elementary school is one of fifteen elementary schools in a Midwest school district. The current enrollment for the 2022-2023 school year was 552 students from preschool to fifth grade.

- This school serves Native American students. Many of the students are transitory and identified as having low socio-economic status.
- As per the 2022- 2023 Title 1 plan, the elementary school was identified as a FOCUS school. The School Performance Index score was 49.37; the Leadership Team met monthly to analyze, develop, and review building indicators. The elementary school was a full-service community school designed to meet the academic, social, physical, emotional, and recreational needs of all students.
- The current school-wide public education program served two sections of special education integrated pre-schools and three special education learning

centers; there were three sections of each grade level kindergarten through 5th grade. The researcher taught one of the sections of fourth grade.

The Census for 2022 from the South Dakota Department of Education showed the elementary student population to have twenty-four preschoolers, seventy-three kindergarteners, seventy-two first graders, seventy-two second graders, seventy-six third graders, sixty-eight fourth graders, and fifty-nine fifth graders. Race and ethnic breakdown shown in *Table 1*.

Table 1

2022 Fall Census Enrollment by Race/Ethnicity and Grade

Race/Ethnicity	Pre	K	1	2	3	4	5
Asian	0	1	0	1	1	0	1
Black	0	0	0	1	1	0	1
Hispanic	5	13	14	10	22	11	16
Native American	9	38	38	33	30	38	20
Multiple Races	2	2	6	8	10	9	6
White	8	19	14	19	12	10	15

Note. The Current Free and Reduced Percentage is more than 90%.

Study Participants

This study conducted focus group interviews during the fall semester of 2022 with ten participants who were enrolled in a Midwest fourth-grade classroom that implemented flexible blended learning. The classroom's total size varied between 18 to 22 students. All students and their families were invited to participate in the study. Only the students who consented and had parent/guardian consent were allowed to participate. Three males and seven females participated

in the study. Two of the females were Caucasian, five females were Native American, and all three males were Native American.

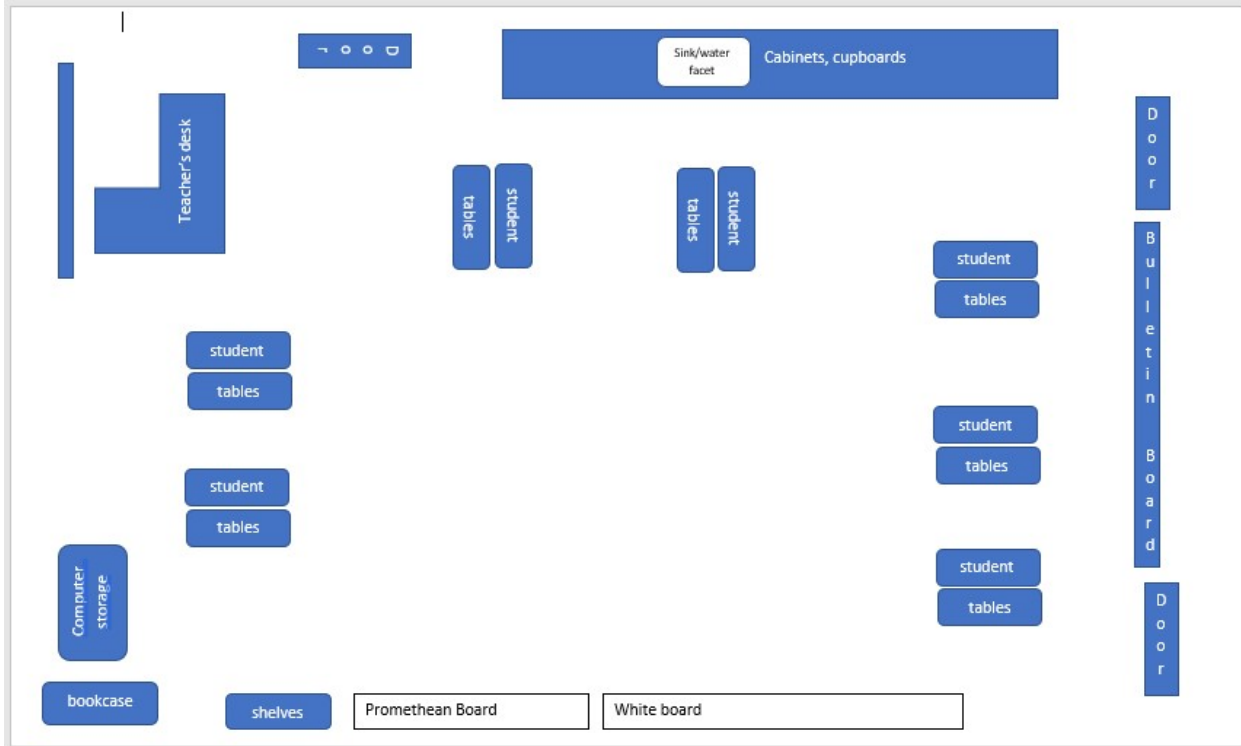
The Classroom Layout

There were 18 to 22 students, depending on transfers, in this fourth-grade classroom. The classroom had 26 Hewlett-Packard Chromebook laptops. Each student had their own dedicated computer with no sharing of technology. All students had one-to-one access to a computer. All students had one-to-one Hewlett Packard Chromebooks; all devices were wireless and assigned to a specific student; no student shared a computer unless necessary due to individual computer repairs. All students had access to Microsoft OneNote, Google Classroom, Edulastic, YouTube, MAPS Math Accelerator, Zearn, Dropbox, Prodigy, Pearson's Investigations 3, Reading Plus, Wonders McGraw Hill Balanced Literacy, and MobyMax.

The classroom was set up with seven table groups. Each individual table seated two students; each individual table faced another table, so the students sat in groups of four, each with a partner facing them from across the tables and an adjacent elbow partner. This allowed for face-to-face or elbow-to-elbow student pairings. The table groups formed a frame for the meeting area on the carpet. During mini-lessons or small group lessons, the students and the teachers could choose to meet in the front of the classroom, horseshoe table at the back of the room, or at the teacher's desk (see Figure 1).

Figure 1

Classroom set-up.



The teacher’s desk had an L shape and was situated at the back corner of the classroom. The teacher was able to pull two to seven students back at a time for interventions or small group lessons. The front of the room had a document camera and a Promethean board. The document camera sat on a small table with an office chair and a small bookshelf to hold teaching supplies.

Overview of Flexible Blended Learning

The educator can choose to provide face-to-face support to the students on a flexible and adaptive as-needed basis using activities like small-group instruction, group projects, and individual tutoring. Other teacher-directed support may include substantial differentiation and/or remediation in the course work to meet the student at the level needed, whereas other students may need minimal no additional differentiation or remediation. The teacher can choose the level of flexibility given to the students to ensure that all students are progressing and staying on task (www.blendedlearning.org). The students can choose to work independently and receive help from teachers or peers when the student feels help is needed. Additionally, since flexible blended

learning can include different learning modalities, the students can access videos for visual learning, podcasts for auditory learning, and hands-on activities for kinesthetic learning. Group collaboration can be flexible for the students as well; group collaboration can be changed to allow students the ability to share files, create discussion threads, and participate in virtual chat, or to do the same thing in person since students are in a brick and mortar location (www.christenseninstitute.org); the student can drive the level of help they need; the student can find the help they may need by using a peer or going online to video, audio or text help.

Math Flex Blended Learning Set-up

The teacher planned a general mini lesson for each content area. All the students were given directions, verbal and written, for finding their lessons and their assignment choices for the day and were released to being their independent work. The whole group and small group mini lessons were done during the student independent work. The teacher used a digital whiteboard to create lessons and uploaded the lessons to the YouTube channel and created a link for students to access the videos. Students were able to access the video lessons via the link in a Google Slide or in Edulastic. The teacher used a blend of both teacher created videos and YouTube or Teachertube curated videos to embed into Edulastic assignments or into the Google Slides.

Learning outcome data was triangulated using Maps Accelerator reports, Zearn and the independent pencil and paperwork the students turned in as daily formative assessments and unit summative assessments. The teacher used the skills-progress report generated by Maps Math Accelerator, Zearn and independent work to group students based on their levels of progress on the standard in question.

A fifteen-minute chunk of every math workshop day was dedicated to fact fluency practice on Reflex.com and 99Math. The students did not know all their basic multiplication,

division, addition, and subtraction fluency facts. The students were assessed at the beginning of the school year on their knowledge of their basic multiplication and division facts. Dedicated practice time was embedded for all students, as the teacher could not control if independent practice was done once the student left the campus.

Students who showed proficiency in the skill and learning target the next day were given an inquiry question and utilized their laptops to practice the topic or explore the topic in a different avenue. Students who needed practice or were struggling with the standard took part in an additional mini lesson. The teacher scaffolded the instruction by modeling and using visual representations to solve the problems along with the students. The teacher pointed out the specific reason why the students needed practice. The teacher used specific student work from the day before, and the teacher and the students discussed what was done correctly in the problem and what needed to be fixed. The students then utilized their laptops to continue their practice on the standard. The more advanced students were brought together to work on a separate activity related to the skill, either as a project-based learning scenario, or the next step in the learning progression for that math skill target. The release of students varied by day, some days the advanced students were released to work first, then the mid-level group, followed by the low skill group. The teacher determined the release order based on who had the greatest need to be supported based on daily formative assessments.

Early in the school year the teacher discussed strategies the students could choose to use if they became stuck in deciding how to problem solve. Additionally, the teacher made sure she gave all the students an idea of who was working on the same skills. The independent worksheets and the exit tickets had the students' names who are working on the same skill or learning target, so students could seek peer assistance. These choices helped students build

autonomy and independence and fostered their ability to find their own solutions, characteristics needed to succeed in later grades. By making the student groups transparent, it was easier for students to work on skills and activities in pairs or small groups. This fostered content-understanding in providing opportunities to ask each other questions and in effect teach each other.

Writing Flex Blended Learning Set-up

. The teacher planned for a general mini lesson in which all the students were given focused technical writing lessons and directions before beginning their flex blended learning lessons for the day. The students were released to work on independent work, with the teacher keeping a small skills-based group for a focused lesson based on the teacher's review of student work. Student learning outcomes were assessed Lucy Calkins 4th grade writing rubrics. For example, if a group was struggling with brainstorming or creating dialog in their story, the teacher pulled a small group and administered a quick minilesson to remind the students of the process, and to provide directions for next step before sending the students off to work independently. As the students worked independently, the teacher moved from student to student doing quick conferences, asking to look at work, and offering suggestions. The whole group and small group mini lessons were done during the school day. The teacher used a digital whiteboard to create lessons, uploaded the lessons to their YouTube channel, and created a link for student access. The teacher created online lessons for each step in the writing process, using either Screencastify or Screencastomatic. The screen recording application the teacher chose to use depended upon the length of the lesson being taught. Screencastify records up to five minutes, and Screencastomatic records up to fifteen minutes. Students were able to access the video lessons via the link placed in the Google Sheet assigned through Google Classroom as a copy to

each student. The teacher posted the videos to YouTube; Google Doc included links to the YouTube videos.

Narrative, Opinion, and Informational Writing were the main units covered in writing during the year. Each writing type was covered for approximately one month, before transitioning to the next writing type. The first month for Narrative, Opinion and Informational writing covered brainstorming, organization, and rough drafting. The second month covered editing, revision, and publishing. The last month covered quick writes for each style of writing. The teacher designed writing templates using Google Templates. Each Google Sheet lesson targeted a specific common-core standard, emphasizing problem-solving and conceptual understanding as a learning target. The Google Sheet template included all steps and lessons to finish and publish the student work. There were three levels of differentiated Google Sheet templates assigned depending on student accommodations and modifications needs for differentiation as entailed in the student Tier 2 or IEP plans.

Reading Flex Blended Learning Set-up

The teacher planned for a general whole group daily reading mini lesson using the Wonders McGraw Hill curriculum. All students at the end of the mini lesson were released to begin their flex blended learning work for the day. The students were released to work on independent work, the students will have daily work choice consisting of two Read Around (RA) vocabulary assignments, two SeeReader (SR) reading assignments in ReadingPlus. ReadingPlus adaptively assigns reading and vocabulary assignments to the students to improve fluency, comprehension, and motivation to read silently. The SR lessons must be completed with a score of 80% or higher. Additionally, the students were assigned an Edulastic assignment with the focus of the Wonders Reading learning target as a formative assessment daily. Edulastic allows

the teacher to embed video and audio recording into the assignments. Students were assigned to a guided reading group, these groups met once a day at least four to five days a week for fifteen to twenty minutes.

Safety

To ensure the safety of the students in online, digital, computerized work the following teaching procedures were taught (Sprung, Froschl, & Gropper, 2020).

1. I taught my elementary students to never share personal information online. This included their full name, address, phone number, and any other identifying information.
2. I explained to them the importance of using strong passwords and not sharing their passwords with anyone.
3. I instructed them to always ask for permission from a parent or teacher before downloading or installing any software or apps.
4. I advised them to be cautious when clicking on links or downloading attachments, especially if the source was unknown.
5. I taught them to be respectful when communicating online, and to avoid cyberbullying.
6. I encouraged them to tell a trusted adult if they encountered anything that made them uncomfortable or if they received any inappropriate messages or content.
7. I talked to them about the dangers of meeting people in person who they had only met online.
8. I taught them to be critical thinkers and question the authenticity of information found online.
9. I regularly watched their online activity and established rules for internet use at school.

I put into place consequences as per the school district's student handbook. Parents were notified of my classroom lessons and expectations in my newsletters. The technology expectations were taught and reviewed often. In a study by Truitt and Ku (2018), the parents' major concern was to keep their child safe when using technology and the Internet. With online access there is potential for students to access and view inappropriate content while on the Internet, whether intentional or unintentional. (Aerschot & Rodousakis, 2008).

To address this concern, I used monitoring software loaded on all the computers being utilized by all the students. The software used was AristotleK12. This monitoring software was loaded onto my teacher laptop. AristotleK12 monitored all the students wirelessly. The loading of the AristotleK12 onto the Chromebooks happened prior to the first day of class, via the district tech department. During class time I carried the teacher laptop around in tablet form, allowing me to always monitor the students regardless of whether I was positioned at my desk. AristotleK12 displayed an on screen a thumbnail image of each of the students' desktops, including all the open tabs and apps of their computer during class.

If a student was off task, or on an unapproved website, I addressed the behavior immediately by walking over to the student and asking them quietly to get back on task. If I was not able to walk over to the student, I will send a personal and specific heads-up notification to the student, locking out their screen with a message from me. I released the computer after I had closed their tab. Additionally, I curbed undesirable student choices and behaviors by blocking websites or not allowing websites past the district filter, sometimes for specific students. I was able to record any inappropriate actions taken by the students by using recording software via AristotleK12 on a specifically focused student's screen, if necessary, for a conversation later.

The introduction of AristotleK12 to the students happened during the first week of school. I built in the computer safety and procedures into the teaching of my classroom rules and consequences. I was often reteaching Internet safety topics, as students worked on research reports; additionally, the school counselor was addressing Internet safety during in-class lessons.

Data Source

The data sources were daily entries in a teacher/research journal and video recorded focus group discussions between the students and the research assistants. Research assistants moderated the student focus discussion groups and recording via Zoom. Using outside individuals, the research assistants, to collect data permitted a higher level of trustworthiness to be built into the study (Merriam, 2009). The focus group discussion was used to answer and understand the research questions in as full and comprehensive a manner as possible.

Student Focus Group Discussions

The student focus group discussions were a primary source of data for the study, during the study the participants were pulled into two separate discussion groups with separation of several weeks between the focus groups. Focus groups were used in this study because focus groups may encourage participation by evoking a train of thought and others in the group may develop innovative ideas and ways of connecting the idea to their own personal stories or to specific situations. Focus groups allowed the research assistants to guide the flow and direction of the discussion providing opportunity for rich response (Glitz, 1998; Panyan et al., 1997).

The student focus groups were conducted with small groups of students; discussions were recorded through ZOOM. The student focus groups encouraged discussion between the student participants with an adult moderator, the research assistant. These groups resembled interviews in that during the focus groups there were a set of questions that the moderator asked the

participants. With this set of questions, each group of students were prompted to have a similar conversation, therefore allowing the data to be more easily compared.

The choice to interview students as a focus group rather than as an individual was purposeful. The focus group allowed the participants, in this case fourth grade elementary students, to feel more comfortable sharing their thoughts and opinions in the security of a group of peers (Jayanthi & Nelson, 2002). This topic should not be an extremely sensitive topic to the participants, but rather one that they should be comfortable talking about if they were given an opportunity (Merriam, 2009; Remler & Van Ryzin, 2011). The interviewees within the group should help prompt more discussion around the topic than would be possible with one-on-one interviews (Remler & Van Ryzin, 2011). Care was taken by the moderator leading the discussion, the outside research assistants, to encourage quieter students to share their thoughts and to help more verbal individuals allow everyone to discuss the questions (Creswell, 2013).

The focus group interviews were conducted during the school day, or shortly after school, as research assistants and parents/guardians' schedules allow. The Student Focus Group Discussion Script (see Appendix A) was offered to the research assistants to inform the students of the purpose of the focus group discussions a week prior the first set of focus group discussions, that way the research assistants could review the protocol and ask any questions in needs be.

A compilation of nine prompts were given to the student focus groups based on Creswell's (2013) recommendation that five to ten prompts are most appropriate when conducting focus groups. When developing the prompts, the researcher took into consideration the age of the students, the available time of students and moderators, and the overall time considerations of the project. The prompts used in the study were adapted from Andrew et al.'s

(2015) study and modified by The Blended Learning Toolkit. The researcher provided a script for the moderators to follow as they guided and posed questions to the student focus discussion groups. The moderators' guide was like the moderator's guide as suggested by Remler and Van Ryzin (2015) using a semi-structured discussion guide. The main difference in the adaptation for the moderator's discussion guide was the questions were environment specific. This meant asking open-ended questions regarding flex blended learning. The guide was flexible, using open-ended prompts, and the moderators did not use the guide as a script. The guide was in place to ensure the topics were covered, and the discussion waxed and waned in a natural fashion (Remler & Van Ryzin, 2015).

The researcher met with the research assistants prior to the first student focus group discussions. The researcher shared how to use the focus group discussion script with the students, how to use the discussion questions, and how to manage a group of students during the discussions. The researcher explained the process and method for recording the discussions, brief note taking during the discussions, and how long the group discussions would last. The researcher emphasized the importance of creating a similar experience for each focus group discussion and each participant.

Focus discussion group size is recommended as four to six children per group for children aged between 6 and 10 (Gibson, 2012; Heary & Hennessy, 2002). It is recommended the time frame should be no more than 45 minutes for the age group (Gibson, 2012; Heary & Hennessy, 2002). The focus groups were formed with no more than five students in the group, and the discussions were anticipated to take anywhere from 15 minutes to 45 minutes in time. The focus discussion groups were variable in length, depending on discourse between the

students. It had been anticipated that discussions would take longer if the students had an abundant amount to disclose or if there were more students within a group.

The setup of the focus group discussion was intentional to allow the students to be as comfortable as possible while in a small group speaking with an adult (Creswell, 2013). The focus group discussions were done in a relaxed setting, with the students seated around a table or in a circle sitting on the floor with one adult who was present. The sessions were recorded using Zoom recording using the live transcript in the feature to automatically transcribe the discussions. The moderator began each of the discussion groups with an explanation to the group of students about how the focus group discussions will proceed. The moderator informed the students the reason they were in the focus group, what the information will be used for, and the focus of the discussion, flex blended learning (Remler & Van Ryzin, 2011).

Teacher/Researcher Journal

A daily journal was completed by the teacher as the researcher. This journal was a digital document (Creswell, 2013) which recorded the thoughts, considerations, and deliberations I made during the implementation of Flex blended learning in the classroom. All journal entries were dated to separate the different data collection periods which were used. The perspective of insider researcher was a stance taken by me. Ortlipp (2008) notes the importance of recording the thoughts and considerations I made in this study during the implementation of blended learning in the classroom. I recorded the decisions made regarding various alterations during the implementation of flex blended learning; this is known as an audit trail. Using an audit trail adds to the integrity of the study and increases the trustworthiness to the findings of the study. Additionally, entries described problem solving processes and overall reflections on how teacher/researcher believed flex blended learning was working.

Data Collection Procedures

This study took place in a regular fourth grade classroom in a midwestern school. Throughout the first trimester, flexible blended learning was introduced and implemented in math, reading and writing. Prior to beginning the study, approval was sought by university's Institutional Review Board (see Appendix B), the building principal, and district's Superintendent.

This study was designed to minimize any risk to the student participants. If the guardians of the participants had concerns regarding privacy, they were assured that all information gained was strictly confidential. The participants who were selected for this study had their guardians sign a parent/guardian consent form (see Appendix C) that included the purpose, procedures of the research, contact information of the building administrator and the researcher. If the guardians of the participants had any questions or concerns, they could contact the researcher by face-to-face meeting, phone call or email.

The teacher of record, who was also the researcher, informally introduced the research project to the parents and guardians during the first weeks of the first semester parent teacher conferences. The researcher organized a parent meeting at the school on August 30, 2022, to inform all parents of the next steps. On August 30, 2022, the parents/guardians received a copy of the Research Process (see Appendix D), additionally, the guardian/parent consent form was sent home with the guardian/parent or the student for official signatures. In the event a parent/guardian did not provide consent, their child would not be included in the study. The students who did not participate in the study continued to participate in the flex blended learning activities; their perceptions and reactions were not recorded in the data set. Ten students from a class that ranged from 18-22 students participated in the study.

This study included two phases of primary data collection from the focus groups within the research window. Each phase lasted for one week. The first main data collection phase occurred around the latter part of the fall trimester, with the final phase of data collection occurring at the midpoint of the winter trimester. The timing of these phases of data collection allowed the researcher to gather data on the flex blended learning during two separate points in the trimester with the timing between collection points occurring three weeks apart.

Interview recordings and personal documents were stored in a lock box and/or a password protected computer. Once transcriptions of the interviews and personal documents were completed and checked for plausibility from the participants, the documents remained stored on a password-protected computer. Transcription software was incorporated into use for the audio/video portions.

Pre-Data Collection

Prior to beginning the data collection, I set up my classroom to be conducive to Flex blended learning. This included setting up digital accounts for all the students in the classroom. I also familiarized myself with the online applications and programs my students were using. In conjunction to this preparatory work, I introduced flex blended learning to my student's routines and expectations. I taught the students how to use the technology devices, programs/apps, how to access their learning materials, and how to participate within the flex blended learning model. During Meet the Teacher Night, I broached the topic of the flex blended learning concept research to the parents of my students along with a simple explanation of the flex blended learning model being used during the year. I offered the parents a written summary of the research process, so the parents could take home the paper and look it over for their own information.

I introduced the idea to the parents by talking with them face to face and letting them know later in the year a parent meeting would be called to explain further and seek consent. I notified all parents of a class meeting for the purposes of the research study. At the meeting, I handed out the Parent/Guardian Consent Form and the Research Process and Proceeding form for parents to take home and read. A week after the parent meeting I sent the consent letter to all parents who had not yet sent them back. Phone calls and messages via ClassDojo were sent to parents who had not sent back consent forms.

Co-committedly during the preparatory time frame, I set up the classroom to be most conducive to flex blended learning. I created the daily class schedule and disseminated the student passwords and usernames. Routines for plugging and unplugging the computers were established, along with monitoring software. Additionally, I familiarized herself with the various computer and online programs which the students accessed in class, along with finalizing the teacher created videos and document templates for student use. I introduced the class to the procedures and the expectations of flex blended learning within the classroom, along with password and login procedures. Login and password and website navigation procedures were taught for Office 365 along with Google Classroom with regards to both work distribution and work turn-in. Students learned how to use their personal login and passwords along with and maneuvering in the following programs: Clever Single Sign-on, Khan Academy, Edulastic, EdPuzzle, OneNote, SharePoint, Kahoot! Freckle McGraw Hill Whole Balanced Literacy, Zearn, Pearson EasyBridge.

First Phase of Data Collection Period

The first focus group interviews occurred during the first trimester, which began August 30, 2022. Starting the focus groups approximately one month after the start of the new school

year allowed students to become accustomed to the structure and routine of the new class. Students were interviewed in a focus group discussion consisting of 5 students at a time. During the first data collection period, the first five students and their moderator met on Oct. 1, 2022; due to scheduling conflicts, the second group of five students and their moderator met on October 18, 2022. There were approximately three to five weeks between the two data collection periods. On November 7-8, 2022, the students were interviewed in the second focus group discussion, which was the week after the first trimester ends. All the students in the class were invited to participate in the focus group discussions, that way no student felt singled out. Students were assigned to a focus group which was interviewed by outside research assistants. Only students who had signed consents had their responses analyzed.

During the focus group discussion, the research assistants read a script which explained the overall study and purpose. The students were asked guiding questions by the research assistants to discuss amongst themselves. As the students were discussing the questions posed, the research assistance moderated the discussion to allow all student participants to voice their thoughts and asked probing questions to elicit detailed and clear answers. The research assistants clarified any misunderstandings. The discussions were recorded via Zoom and simultaneously electronically dictated and transcribed; the transcriptions were analyzed after the data collection period had closed. The students did not mention their names during the focus group discussion for the sake of anonymity. They were assigned a number, and that number was placed on their shirts using a white nametag sticker. During the focus group discussion if a student responded, they stated their specific number before they spoke. For example, “Student 4, would like to add...”. If the student forgot to mention their assigned number, the research assistant stated the number of the respondent after the student’s response. Using numbers instead of names kept the

students anonymous during the focus group discussion process. The Zoom recordings and the transcriptions of focus group discussions were stored by the outside research assistants. The research assistants could choose to store the Zoom recordings on their device using encryption to protect the data or they could choose to store the recordings in Zoom's cloud after the meeting had ended; these recordings were passcode protected. During this period of data collection, the researcher kept a daily journal which allowed for recording of thoughts and considerations of the process of flex blended learning in the classroom. The journal entries were used in the audit trail.

Interim Data Collection Period

This time frame occurred between the first and final data collection periods from October 23 until November 14, 2021. During this three-week period, the teacher made dated journal entries in the reflection journal. The teacher recorded her thought processes with regard to the flex blended learning process. For example, the teacher recorded if they decided to make any changes to the process and procedures of flex blended learning, engagement or reactions of students, staff or stakeholder interactions, or any other impactful influences which occurred during the interim period. The teacher reflected on instructional decisions including things that went well and challenges which may need to have process or procedural changes.

Second and Final Data Collection Period

Following consent, two equal-sized focus groups were formed of five students each. Two moderators were used to keep the group size to five students for each moderator. Each moderator met twice with their assigned group with approximately one month between the two focus group interviews; the same questions and scripts were used in the first focus group interviews and the follow-up interviews. The second focus groups were held to figure out if the students' answers changed, or if additional information was shared after more time in the flex blended learning

environment. All focus groups were recorded using ZOOM which was used for transcription. The first five students and their moderator met on Oct. 1, 2022; the second group of five students and their moderator met on October 18, 2022. In the second interview session, the first five students and their moderator met again for the second focus group interviews on November 7, 2022; the second group of five students and their moderator met again for the second focus group interviews on November 8, 2022.

Upon completion of the second focus group interviews, the transcripts were re-created in Microsoft Word. This was necessary because the Zoom application used auto transcription, and the students tended to want to talk over one another, making the auto transcription unintelligible. Each focus interview was listened to first with no typing, just to listen to conversations, and then transcribed by listening to the Zoom audio for all four sessions.

The second and final data collection period process was conducted in the same manner using the same groupings and questions as the first data collection period; the data collection process was replicated. The second focus groups were held to determine if the students' answers changed, or additional information was shared after more time in the flex blended learning environment. Again, the focus groups were recording using ZOOM which was used for transcription. In the second focus group session, the first five students and their moderator met for their focus group on November 7, 2022; the second group of five students and their moderator met for their focus group was held on November 8, 2022.

Data Analysis

Thematic analysis was used to analyze the data. Although data were gathered during two separate focus group interview collection periods, the findings were comparable, and the time interval between the collections was brief, so the results were merged and distributed based on

the research questions. When analyzing the student responses from the two focus groups, general themes were assigned to the data, which were then further analyzed for more detailed themes, and applied to the four research questions in themes. A thematic data analysis process was used to analyze data from the focus group interviews. Although the data was gathered during two separate focus group interview collection periods, the time interval between the collections was brief and the findings were comparable, so the data was merged. When analyzing the student responses from the focus groups, general themes were assigned to all of the data, which was then further analyzed for more detailed themes, and aligned to the four research questions. The data collected in this analysis was organized into themes using suggestions from Braun and Clarke (2006) and Saldaña (2013).

Analysis Software

NVivo Student version software was used to analyze data and report the discussions collected from the sample. NVivo Student software helped generate the results for the research questions from the group focus discussions. NVivo Student software was used to store and sort the information obtained in the focus group discussions. NVivo 12 software was used to help save time while discovering more in-depth answers to the questions being presented by the participants.

Coding

Coding refers to a process of tagging the text or other qualitative data using a system of categories (Remler & Van Ryzin, 2011). Braun and Clarke (2006) provided a six-phase guide which is an especially useful framework for conducting thematic analysis in qualitative research. The researchers started by familiarizing themselves with the collected data. This phase, or step, immersed the researcher into the data through transcription of the focus group interviews. The

process included listening to the recorded information and noting initial important content. The next phase, or step, the researcher took was to create initial codes through extrapolation of interesting or meaningful portions of the conversations. The next phase, or step, the researcher completed in the analysis was to start making interpretations of the codes. Data was sorted into larger themes. Distinctions were made between codes, subthemes, and themes that were found. Themes were then more deeply reviewed to find distinctions. Unification of the data was completed by refining the themes and aligning them to the research questions. A final analysis of the themes included support that addressed the research questions directly.

Saldaña (2013) also discussed a coding method to analyze information by theme. Saldaña (2013) discussed using codes in qualitative inquiry with a short phrase (theme) as a summative way to capture language-based or visual data. Sorting the data by short phrases helped the researcher to make connections between the collected data and the research questions.

Inductive coding was used on the datasets first. Each dataset from each timeframe set was read as the researcher coded similar themes and ideas that arose. The researcher began with a small sample data set to verify the accuracy of the tags assigned. These data sets had multiple sentiments and multiple categories, so the researcher needed to double or even triple-sort some pieces of data.

Qualitative software helped the researcher code the qualitative data; the software aided in storing, retrieving. QSR NVivo was used to separate the data into research questions and then into other more specific categories or themes. I started with reading the data and assigning codes to various excerpts in broad general categories. As data was coded, I pulled portions of the information large enough to stand alone yet still make sense (Merriam, 2009). Once the data was chunked into large categories, I utilized the participant's own spoken language and stayed as

close to their intent and meaning as possible, summarizing the passages into single words or phrases extracted from the discussion itself. I looked at each data set from each collection period independently and dual coded or pattern coded the data to connect it to more specific themes or categories. Data was then analyzed to identify similar themes contained across focus groups. The coding of the data was done in a heuristic manner. I coded in this manner to allow broad and expansive reflection regarding each specific data piece (Merriam, 2009).

Trustworthiness

A responsibility falls upon the researcher to address the concern of trustworthiness in a study. Trustworthiness addresses concerns of the data as credible, transferable, confirmable, and dependable (Lincoln & Guba, 1985). The position of the researcher/teacher can potentially threaten the trustworthiness of the study. This concern can manifest when the researcher is also the teacher within the study therefore intimately conjoined into the study. Several different strategies were utilized to assure the trustworthiness of the study, clarification of researcher bias, triangulation and rich, thick descriptions.

Clarification of Researcher Bias

The researcher clarified the researcher bias from the inception of the study (Creswell, 2007). Use of a researcher journal was critical for the researcher to reflect on past experiences, beliefs, biases, and prejudices which may have shaped the researcher. The biases, assumptions, past experiences, and beliefs may impact the researcher's feelings during the study. The researcher noted these biases, assumptions, past experiences, and beliefs, within the journal.

This journal was a digital document (Creswell, 2013) which recorded the thoughts, considerations, and deliberations of the researcher during the implementation of Flex blended learning in the classroom. All journal entries were dated, to separate the different data collection

periods which were used. The perspective of an insider researcher was the stance taken by the researcher. Ortlipp (2008) notes the importance of recording the thoughts and considerations the teacher/researcher will make, in this study during the implementation of blended learning in the classroom. The researcher recorded the decisions made about various alterations during the implementation of flex blended learning; this is known as an audit trail. Using an audit trail added to the integrity of the study and increased the trustworthiness to its findings by exposing the history, values, and assumptions, not to control bias but to make it visible (Ortlipp, 2008). Furthermore, the teacher/researcher's beliefs about the effectiveness of flexible blended learning, as well as their problem-solving methods and reflective processes, were offered as proof of an audit trail, along with the researcher's values and interests (Lincoln & Guba, 1985).

Researcher Triangulation

The study used more than one research assistant and more than one dataset and point in time to gather data to facilitate deeper understanding (Denzin, 1978; Patton, 1999). The study used at least one or more research assistant(s) to collect, code, compare and analyze the data, which allowed confirmation of findings across investigators and researchers. The research assistants did not have prior discussions or collaboration among them, this reduced bias and increased reliability of the study. The researcher used the daily reflection journal to confirm the findings from the focus groups. Although The datasets from the focus group discussions and teacher observations were independent and not linked. In this study, triangulation was achieved by comparing the two datasets, and by drawing on multiple perspectives obtained from the focus groups, this approach helped to minimize bias and establish validity. In this way, bias was minimized and/or validity established (Modell, 2005; Modell, 2009; Yin, 2009).

Rich, Thick Descriptions

The last strategy the researcher used included rich, thick description to ensure another form of validity to the study (Creswell, 2013). To give the audience the fullest scope and sequence of the events happening in the research, a characteristic of qualitative research is the rich textual descriptions provided by the researcher.

Summary

In this chapter, a phenomenological qualitative research approach was described, followed by examination of the research questions, the qualitative methodology implementation. The researcher's assumptions are examined in conjunction with the identification of the participants in the study. The process for collecting and analyzing data, including interview protocol construction, interview administration, journaling, and thematic analysis, were explained. Details were also shared about how the data will be managed and quality promoted in the research process. Chapter 4 will include the findings of this study and Chapter 5 will include a discussion on the implications of the findings and suggestions for further research.

Chapter 4

RESULTS

The purpose of this study was to examine the experiences of students in a fourth-grade flex blended learning classroom. Specifically perceived barriers, motivating aspects, skills, and characteristics needed to be successful, and recommendations for successful implementation of flex blended learning were explored. This chapter examines the themes that emerged from my analysis of the data collected for this study, student interview transcripts from focus group interviews. Chapter 4 specifically focuses on the themes that arose from efforts to answer the research questions outlined in this study. Chapter Five includes a discussion and implications of these findings.

Presentation of Data and Results

This section presents the key themes and subthemes that appeared from that data analysis for this study. Themes will be presented in alignment with the research questions.

Question One- Barriers

How do the students in a fourth-grade classroom describe barriers to their participation in flex blended learning? Upon examining the overall responses to the focus discussions during the two data collection episodes, four dominant themes appeared: 1) Distractions, with subthemes of internal mental distractions and environmental imposed distractions, 2) Redundant and Passive Learning, specifically when using the video lessons in a blended learning design, 3) Computer and Technology Issues with a sub-theme of fat finger syndrome, and 4) Character Traits or Student Competency with sub-themes of the challenge of independent learning, carelessness and irresponsibility, and lack of ability to prioritize unfinished work.

Distractions. In the focus group discussions, the reoccurring mention by the students of mental focus for the students due to internal distractions and loss of mental focus, or concentration, due to outside, or environmental, influences.

Internal Mental Focus Distractions. When examining the comments made by the students, a common theme the students discussed as a barrier to their learning was their own internal struggle with mental distractions, or losing attention, which often manifested as drawing, doodling, and/or staring off into space. Students had several comments related to doodling and drawing. Student five explains, “There is like when I have a paper in front of me, because I just start drawing.” Student four mentioned, “I think why I not so good at blended learning is because I am barely paying attention. Oh, I'm drawing and playing with a piece of paper and maybe getting distracted by the many toys I have.” Student nine explains, “I will struggle, it will either be because, I either found something, or I would be fiddling with my pencil.” Some students pointed out that distractions are a result of escaping mental struggle. Student ten said, “It's sometimes really hard, like you don't want to do it, and you just want to play with your pencil or something so when it's really hard, sometimes you kind of just get distracted play [sic] with other things.” The internal distractions discussed are further explained by the students in the form of wandering attention. Student six said, “Because, like, like, sometimes, I just very often stare into space, just not paying attention. But I don't know why; it just happens along the way.” Student eight added, “I don't pay attention to Mrs. Nelson sometimes, and then I have to ask lots of questions.”

Environmentally Imposed Distractions. The environmental distractions the students identified as problematic barriers to participating in flex blended learning were other students engaging in distracting behaviors. The first student-identified behavior was talking; either

conversation specifically directed to the student or in the form of side conversations occurring in close proximity to the student. As a distraction from being talked to directly, student two explained, “My friends because they talk to me.” Student eight said, “I am distracted because people keep talking to me.” Student seven added, “People always talk to me.” Students also commented on sidebar conversations as a distraction with student one saying when referring to a distraction, “All the talking.” Student ten stated, “By getting distracted by classmates.” Student three added, “People talking too loud.”

Another identified environmental imposed distraction identified was other classmates intentionally breaking the focus of the class. In the comments, the students alluded that some classmates created an atmosphere of chaos, making it difficult for them to concentrate and retain information. Student three commented, “I'm struggling because the people who hate school so much annoys me.” Student four added, “Because people are always being disrespectful to each other and lazy too.” Student ten added, “It is cus [*sic*] someone's doing funny things.”

Student seven said,

People who are not behaving them self [*sic*], the yelling and talking. Please move Student A and Student B to a different class for a day in the form of a vote of the class so it's even. Sometimes I am trying to sit at the teacher's table, but Student A sits next to me, and I get sent back to my table, and sometimes Student B is yelling at the teacher. People play tag, chase each other and fight sometimes, but at times it's nice and quiet in the room.

These statements show how students identified distractions as barriers to their learning outcomes, specifically due to the actions of their classmates.

Redundant and Passive Learning. Video lessons are often included as a choice in the self-directed or online component of flex blended learning in the fourth-grade flex blended classroom used in this study; the students in the focus group identified redundancy due to preexisting knowledge and passive learning with no opportunity to interact, as a barrier to participation specifically in reference to video lessons. The students in the focus group identified several reasons that they dislike video lessons: having preexisting knowledge, or already knowing the content in the videos, or in other words, redundant content; lack of engaging videos; and videos being too long to watch with no option to interact.

Pre-existing knowledge came up often when referencing video lessons. Many students felt they already had knowledge of the content being presented in the video; they felt that watching the video was redundant, and they preferred to complete their independent work without video support. The following student comments demonstrate these feelings. Student four explained, "...because I probably already know it." Student ten added, "Because I know some of it, or we already learn [*sic*] some of it." Student two commented, "Because when you have to watch the videos, than the things that are on the videos, than we might know the things that are on the videos." Student seven added, "Because I already know what to do for the lesson." Student eight affirmed, "I watch some of the videos because I can know the problem and sometimes, I don't watch it because I already know the problem." Student four continued, "I already know it, or I just don't want to watch it."

Students may feel overwhelmed or bored if the video is too long or goes into too much detail. Student four noted this concern, "Because they talk and talk a lot of times." Student one noted in regard to a video lesson, "It's slow". Student five mentions,

I don't like it when I have to go back and it takes a long time to find the place I need to watch, and then I have to go back and back again if I need to watch it again. It takes a long time.

Videos can be a passive learning experience, meaning students are simply watching and not actively engaging with the content or their peers. Student eight explained this by saying, "I don't watch it because it easier for me to learn it on my own rather than watching a video." Student five commented further saying, "I don't watch it because I know the answer when I draw it and figure it out." Student two said, "I think asking the teacher or a friend is faster." Another student added, "The teacher can tell you how to fix your problem in a different way, alls [sic] the video does is the same over and over."

Computer and Technology Issues. Another theme that emerged as a barrier to participation in flex blended learning was technology problems and issues like glitches. For example, students commented on difficulties with the various programs and applications they were required to utilize in their flex blended learning classroom.

Glitches were a frustration noted with the online applications. Student four said, "I do not like Edulastic cause it's hard and kinda [sic] glitchy," Student one explained, "Freckle is glitchy; I put in the right answer, and it puts in the wrong answer and, and I get a bad score." Student five pointed out, "What I hate is that Zearn, is [sic] that I get the question right, but it doesn't get it right." Student eight continued with, "Sometimes when you get the answers right, it says it is wrong." Student number one complained, "Reflex keeps making me do the same fact over and over. I don't know why. I get it right. I know the fact, but it says I don't know it. It is a glitch."

Students did reveal some positive attitudes despite the challenges of using computer technology. Some students shared that they love using computers. Overall, students seem to be generally positive about the technology used in the classroom. Student two explained, “Something that I don’t like about the computers that is that sometimes is like I don’t know, probably like bit glitchy on my computer, but other than that I love it.”

Fat Finger Syndrome or User Error. Some students mention feeling angry and frustrated when they make mistakes and need to retype, or answer prompts multiple times. Redoing work due to mis-keying and/or a mis-click was a subtheme of computer and technology issues. Student six said:

When we were doing the popcorn template, sometimes I, I click on the box, and I press a letter, and sometimes [*sic*] all go away. Oh, and I had to type it all again. Every time I do it, I say, every single time. Cause every time I do it I have to type it every single time. Like when we were doing the conclusion thing, I accidentally clicked something, and I had to rewrite it.

Student one commented, “When I do the popcorn [template], and I type wrong, I sometimes push the wrong keys and wrong words, and I make all my work disappear, and the teacher has to fix it.” Student ten explains, “In writing we did a ramen noodle template, our opinion on it. And on the conclusion paragraph, I was all done but I forgot a period. Oh, and since I pressed the period button, and they just all went all went away.” Student eight added, “When it goes away, it makes me mad cause I can’t keep up.”

Character Traits or Student Competency. Lastly, the students discussed how their self-identified personal characteristics or competencies hindered them during their work, creating

a barrier to participation in flexible blended learning. The theme of self-identified personal characteristics or competencies had sub-themes of 1) challenge of independent learning, 2) carelessness and irresponsibility, and 3) lack of ability to prioritize unfinished work.

Challenge of Independent Learning. The challenge of being an independent learner was a barrier to participation in flexible blended learning. Student five explained, “The characteristic I struggle with is independence because I always need help.” Student two added, “The characteristics that make me struggle is being too curious because I just have all these little questions, I ask myself in my head, and then I get unfocused.” Student one shared, “We do RACE, every day, the pieces of text evidence, it is so long, makes me mad, and I hate it. Because I can't even catch up, I can't do it by myself, I get it all wrong.” Student ten explains lack of independence in using the RACE constructed response as, “It is so hard, all the writing, I can't do it by myself, and I lose focus, I can when I copy the teacher, then we got to write in the air and I have a bad memory and can't remember what I have to write by myself.” Student two reported, “I always want Mrs. Nelson to check my work before I turn it in.”

Carelessness and Irresponsibility. Students often turn in poor-quality work laced with frequent incorrect answers and sloppy handwriting. The characteristics of being careless and/or irresponsible in completing independent work often created more work for the student and was a subtheme that appeared as a negative aspect of flex blended learning. Student four mentioned, “...my carelessness” as a challenge or struggle in their experience in a flex blended learning classroom. Similarly, student ten said, “One characteristic that makes me struggle is responsibility, because, I don't do or take care of stuff.” Being careless and irresponsible is explained by student five, “I get tired. I want to finish, so I guess and sometimes I get the answer right, but sometimes I don't.” Student one added, “I don't check my work a lot, Mrs. Nelson

makes me put capital I [sic] and names, and I get more work cause of that.” Student three said, “I want to mark my work in green on the Daily Work planner and be the first one” when explaining rushing through work. Student seven said, “I’m having trouble with staying focused... I think the characteristic that makes me struggle is I’m tired.”

A couple of students discussed having to recheck their work because they didn’t do so prior to submitting it. Student number one said, “Getting 80 percent is hard, you have to keep checking your answers, and she makes you redo your work.” Student five added, “Yeah you have to get 80 percent or higher, she makes us redo it.” Student seven described, “Eduhastic, gives back work if you don’t get 80%, and then you can redo it, like, someone did it eleven times or more.”

Lack of Ability to Prioritize Unfinished Work. The students discussed that they have many tasks they need to complete for independent work. This sub-theme suggests multitasking and balancing multiple unfinished work assignments is a barrier to participation due to the struggle to plan or prioritize. As student four shares, “The teacher has lots of things for us to do, and I have to do other things I have not finished working on. I don’t know which one to start, so I ask what I have to do.” The parallel is evident in student seven’s description, “It is hard cus [sic] you have, you go to do so many stuff you have to on a normal day, and you sometimes don’t finish, and you have to do it later.” Student six mentions:

We have a tracking sheet to keep track of our work, but some days the red doesn’t go away, only a little bit turns green, that makes me feel mad, cause I have to still do it and I have so much to do, and I don’t know what to do first.

Student three shared, “You can’t work on one thing, you have to jump around to reading, writing and when you don’t finish, you have to finish later.” This idea is explained by student number two saying, “I was going to say if you don't do your work, it'll go on and on and you will have this big old pile of work that you will never get done.” Student seven adds “when I get tired, I don’t know what to work on cause, I have lots of unfinished work, and it keeps going up.” Student number eight added,

Let's see, get your work in on time, or you'll, next week you'll be doing it. Because in fourth grade, you're not in third grade anymore, because as soon as you miss an assignment it goes away. But in fourth grade it doesn't go away, it keeps stacking up and stacking up.

Question Two- Motivating Aspects

How do the students in fourth-grade classroom describe motivating aspect(s) of flex blended learning? This question examined the students’ descriptions of the motivating aspect(s) of flex blended learning. Two themes emerged in response to motivational aspects of flex blended learning: 1) Autonomy, Mastery, and Self-Directed Learning and 2) Gamification.

Autonomy, Mastery, and Self-directed Learning. This theme was identified as a motivating aspect of flex blended learning specifically in regard to math. The students were enthusiastic, through self-directed efforts, about the prospect of moving up to higher math groups by achieving a particular goal or mastering the content; the students explain this motivates them to work harder and achieve better results. Student seven voiced, “It is fun to move groups in math. You do your work, and you can move to a high group.” Student five added “My favorite thing about blended learning is math. Because when I do my teacher work in math, I can have a different group tomorrow if I get good work.” Student four commented, “Like, the math groups.

Because we move in them. We have to do the teacher work every day, and then Mrs. Nelson will move you up if you get eighty percent or better.” Student three confirmed, “I get happy when I move math groups, means I know my math lesson.”

Some students also talk about the importance of self-improvement and learning, as they express a desire to get good at math, and according to one student, to be considered smart. Student two describes, “I like to *[sic]* math groups because I am group one, then I can get to group 4.” Student number one further describes, “The thing that motivates me and what makes me feel like I want to keep working is math.” Student nine said, “What makes me motivates will *[sic]* I say " I CAN DO IT!!! and what makes me keep working is, I know it.” Student eight elaborated, “When I get *[sic]* answer right, I feel successful, and it makes me go more. When I don’t get the right answer, I don’t feel successful, but I do more anyway, so I get better.” Student four commented, “I want to keep working because you can learn new stuff.” Student five adds, “I want to keep working because I want to get good at math so I can be smart.”

Gamification. Another theme that emerged as a motivating aspect of flex blended learning was the use of computer games and software. The students talked about how the Reflex and Maps Accelerator online apps have helped them to practice and learn math and other subjects effectively and the added component of fun associated with gameplay.

The students highlight the importance of practice and repetition in learning through computer games and software, particularly in memorizing facts and information. Student two explains,

I am successful because of Reflex because I know the facts easier now. Mrs. Nelson says you have to know your facts just like how you know your name. Then that’s how how

[sic] you have to know them. You'll get to learn them out through, and then you're very fluent with the facts. It tells you how fluent you are, so that's fun.

Student six added, "Reflex; the reason I like Reflex is because it helps us memorize, ummm, facts but in a fun, really fun way, umm, like for me I'm 60 I'm 70% fluent...". Student two offers, "It [Reflex] helps me with my fluency, with my multiplication and division facts, I'm the highest one." Student ten disclosed, "I do feel it [Reflex] is comfortable and it is kind of easy."

Some students mentioned that they enjoy playing these games and find them fun, suggesting that learning can be engaging and enjoyable when presented in the form of computer games. Student eight said, "I think Maps Accelerator is fun, because they give you videos on the learning stuff." Student five added, "Reflex because we get to play fun games when [sic] get our island, and I'm the highest ones [sic]." Student four said, "My favorite game on the computer of math is Reflex, you get to play math games." Student eight added, "I like the practice games like Reflex, Power Spelling." Student seven commented, "My favorite game on the computer of math is Reflex," with student two sharing, "Reflex is the best."

Question Three-Non- Cognitive Skills Needed to be Successful.

How do students in a fourth-grade classroom describe their own skills and characteristics to be successful in flex blended learning? Question three examined the skills and characteristics students felt they needed to be successful in flex blended learning. The themes in this section appeared in response to what the students described as the skills and characteristics they identified in themselves as learners. The themes were 1) time management and work completion and 2) respect and responsibility.

Time Management and Work Completion. This theme is related to the importance of the students' own ability and capability for time management and completing their assignments. The students discuss being able to manage their time and finish independent work as a characteristic necessary to be successful in flex blended learning. Earlier some students identified the struggle to prioritize compounding unfinished work as a barrier to participation in flexible blending learning. However, some students were able to plan a starting point to enable them to begin and finish work and felt this was a characteristic that helped them be successful.

Some students emphasize the importance of doing easier tasks first and then moving on to harder tasks. This highlights the need to manage time effectively and prioritize tasks to get work done efficiently. Student eight explains, "Yes, because some of the sites are easy, and some of the sites are hard, so I do the easy ones first, and then I move on to the hards [*sic*]." Student four discusses their plan, "If there is something new on 99Math, do that first, do the new thing first." Student ten echoes these ideas, "I would show you the easy sites. First okay, start with the easier things first and then move to the more challenging things." Student two explains "I would show you the daily work, and then I would show you what you had to do."

The students discussed how they felt about doing work in flexible blended learning, Comments showed their desire to organize and plan their worktime and feelings of accomplishment when their work is successfully completed. Student three added, "I like looking at my daily work, what I need to finish, like my 99Math or my Edulastic." Student one professed, "I think it is fun when you get finished early and get 80 percent."

Student one stated, "Nothing, I just like getting it done because it makes me feel organized."

Student three said:

I am successful cause I get my 99-math done every single day, and I really catch up on my stuff. ... every time she tells us to do something, I already have my computer open and can go get on it. Cause It is pretty easy, she has all the *[sic]* on Google Classroom. She has some stuff marked, like independent practice, independent writing, like quick writes and stuff, so we know where it all is cause *[sic]* it is all organized not, scattered around. She tells us when to get on Clever.

Overall, time management and responsibility for completing work are prominent as positive self-described skills needed by students to be successful in flexible blended learning.

Respect and Responsibility. The following student responses are related to being a good and responsible student which the students identify as characteristics and skills necessary for success in flex blended learning. The student responses include respect for teachers, working hard, being good and kind to others, following directions, and paying attention to learning.

The theme of respect for authority figures, particularly teachers, is clear as students express their willingness to listen to and follow directions from their teacher, Mrs. Nelson. The students' express pride in their good behavior by listening to the teacher, and their effort in the classroom, highlighting the importance of being a good student to succeed in learning. Student five said, "I'm safe. I try to work hard, and I listen to Mrs. Nelson." Student number seven explains, "Being a good, respectful and responsible student" is a necessary skill and characteristic to be successful. Student number one commented, "I think I'm a kind and a good student, and I listen to you." Student one said, "Because I respect you ...I can finish my work." Another student mentioned, "I pay attention and get all the work done in no time." Student number three said, "I pay attention to Mrs. Nelson, and I listen to Mrs. Nelson."

The theme of responsibility is also present in the text, as the students take ownership of their learning and complete their work. Student one says, “I uploaded my finished work on Google.” Ownership is described by Student one as “I do my work.” Student number four clarifies responsibility as “...that I'm working hard on my unfinished work.”

Additionally, the idea of self-awareness appeared as students reflected on their own behaviors and self-identified characteristics, with statements like the following when Student eight said, “Well, I am a good student because I work hard sometimes and be kind to others.” Additionally, Student five said, “I am a good student because I listen, I be *[sic]* quiet, and I be *[sic]* kind.” Student seven added, “I am a good student because I listen and follow directions.”

Overall, the main themes that emerged as skills and characteristics necessary to be successful in a flex blended learning classroom relate to the importance of good behavior, respect, responsibility, and effort in being a successful student.

Question Four-Recommended Changes

This question examined the students’ comments with regards to how students in a fourth-grade classroom describe changes they would like to see in flex blended learning. This question’s goal was for students to identify any possible changes they would like to see in the flexible blended learning classroom. The student’s main concern was the implicit desire for more time to finish work. Only one theme emerged from the student discussions, which was limited work time.

Limited Work Time. Students expressed concern about the time in completing the expected work, implying that providing more time to complete the blended or online components would be helpful. Student five mentioned, “The time because we have a short amount of time.”

Student seven discusses the time element in Reflex stating, “In Reflex I run out of time to get the questions, and I have to do Penny’s Picture Puzzle over and over again.” This sentiment is shared by student one who mentioned the frustration of the cumbersome nature of logging in and out of programs due to the various transitions during the day. Student eight explained, “When you are working on Reflex and you are not done, yet, you have to go to Specials and when you have to come back, then you have to log back in and you have to start all over again.”

The students discussed difficulty keeping up with the pace of the teacher and the amount of work, expressing feelings of frustration or feeling overwhelmed when they are rushed or have a lot of work to manage. Student six commented, “I would tell her to stop giving too much work.” Student eight said, “Sometimes it is like when someone is rushing me and it gets frustrating.” This is further explained by Student three, “Well, sometimes I sometimes I get a little behind on work. And also [*sic*] when the teacher says for us to do something, and she's also doing it sometimes they gets [*sic*] a little hard because she goes too fast.” Student four added, “I don't want to be rushed all the time...”

These student comments show the pressure due to the pacing of the class and the workload expected in this particular fourth-grade classroom utilizing a blended learning model. The students pointed out the rushed nature of both the independent practice time and the teacher’s instructional time.

Summary

In conclusion, the themes presented in this chapter discuss the barriers to participation in flexible blended learning, motivating aspects of flexible blended learning, the student-identified skills and character traits necessary for success in flexible blended learning along with possible

student-recommended areas of change. The next chapter will discuss the research study's ties to the current body of research, along with implications and recommendations.

Chapter 5

Summary, Conclusions, Discussion, & Recommendations

The purpose of this study was to examine the lived experiences of fourth-grade students within a flex blended learning classroom and develop an understanding of students' perceptions of this learning environment. Specifically perceived barriers, motivating aspects, skills, and characteristics needed to be successful, and recommendations for successful implementation of flex blended learning were explored. Chapter 5 is organized by providing a summary of the literature, a review of methodology, a summary of the findings, conclusions, and a discussion. Implications of the results for practice and policy will be also addressed. Lastly, recommendations for future actions will be discussed.

Summary

In recent years, U.S. schools have steadily increased access to technology in the elementary classroom by investing in hardware like computers and tablets along with learning software and online learning apps (Mac Callum et al., 2014). With more access to and use of technologies in classrooms, teachers are utilizing blended learning more than ever (<https://www.ed.gov>), particularly in the K-12 setting (Lin & Wang, 2022; Means et al., 2010). Blended learning has positively affected student outcomes (Lin & Wang 2022; Means et. al, 2010), particularly in Math and STEM (Hughes et al., 2007; Manca & Ranieri, 2016; O'dwyer et al., 2007; Seage & Türegün, 2020) and ELA (Kanniainen et al., 2021; Rahman & Azmi, 2020; Sergi et al., 2022; Wood et al., 2017). Despite blended learning being a promising practice, there are barriers and challenges in blended learning environments. Identified barriers include lack of teacher preparation and training (Ardıç, 2021; Celebi, 2019; Cicek, 2019; Dukes et al. 2006; Howard et al., 2021; Kode & Coclar, 2020; Savsci, 2014; Sikor & Barbour; 2022; Spiteri &

Rundgren, 2020), students ability to manage independent and self-regulated learning (Al Mosawi & Wali, 2015; Chai, 2017; Fisher et al., 2018; Fryer & Bovee, 2016; Lombard et al., 2002; Zacharis, 2015), computer and technology issues (Bernard et al., 2014; Graham et al., 2019; Greenhow et al., 2020; Pape, 2022; Van Dijk et al., 2020; Warschauer, 2011), distractions like noise levels (Hoang et al., 2022; Vander Ghinst et al., 2019) or sticking to relevant sites and topics with online access (Graafland, 2018; McCoy, 2020), and engagement when using video lessons due to quality, access, quality, lack of interactivity, and redundancy in content (Beale et al., 2014; Blackstock et al., 2017; Dinmore, 2019; Fisher et al., 2017; Geri et al., 2014).

Despite barriers in using blended learning, there are also many benefits associated with blended learning, depending on the learning situation and the students involved. Even though the ability for students to be self-regulated learners, an important skill necessary for success in blended learning (Broadbent, 2017; Jansen et al., 2019; Lai et al., 2018; Lai & Hwang, 2016; Liang et al., 2016; Rasheed et al., 2020) has been identified as a challenge in blended learning, studies show that self-regulation skills can be fostered by the teacher in blended learning environments (Kiekel, 2007; Siko & Barbour, 2022). Gamification, the use of educational video games, has proven to be an effective way of enhancing students' motivation, engagement, attitude, and academic performance (Bai et al., 2012; Beserra et al., 2014; Lin et al., 2013; Rayya & Hamdi, 2001; Vogel et al., 2006; Yeh et al., 2019). Video lectures/lessons offer students greater control over the material, can be beneficial for at-risk students, and can increase teacher presence (Beale et al., 2014; Chen & Wu, 2015; Hajhashemi et al., 2016; Valenti et al., 2019). Finally, blended learning environments promote the development of soft skills such as time management, communication, and self-regulation skills (Rasheed et al., 2020; Tovmasyan et al., 2023).

Methodology

A phenomenological approach was used in this study using focus groups as the primary source of data. Ten students from a Midwest fourth-grade classroom implementing flex blended learning participated in two focus group sessions several weeks apart; the second series of focus groups were held to determine if responses had changed with more time in flex blended learning.

Although the data were gathered during two separate focus group interview collection periods, the findings were comparable, and the time interval between the collections was brief, so the results were merged and distributed based on the research questions. Thematic analysis, using inductive to identify themes. Each dataset from each timeframe set was read as the researcher coded into general themes. The researcher moved through the data looking for recurring patterns to be identified. QSR NVivo was used to separate the data into research questions and then into other more specific categories or themes. Triangulation of the data, comparing two separate focus group collection points and journaling, added to the credibility of the study.

Findings. Through the process of triangulation and comparing the categories that emerged from the individual interviews and focus group sessions, four dominant themes regarding barriers to blended learning appeared: 1) Distractions, with subthemes of internal mental distractions and environmental imposed distractions, 2) Redundant and Passive Learning, specifically when using the video lessons in a blended learning design, 3) Computer and Technology Issues with a sub-theme of fat finger syndrome, and 4) Character Traits or Student Competency with sub-themes of the challenge of independent learning, carelessness and irresponsibility, and lack of ability to prioritize unfinished work. With less teacher support during the online aspect of blended learning, students struggled with independent learning,

sometimes becoming confused about challenging assignments or activities, struggling to prioritize assignments, therefore, becoming overwhelmed and/or falling behind, and not staying on task or losing focus. Students also found challenges in working with technology, the various glitches they may encounter in computer programs and applications, and sometimes having to redo work because of accidentally clicking the wrong buttons.

Students also described the benefits of participating in flexible blended learning. Two themes emerged regarding the motivating aspects of flex blended learning: autonomy, mastery, and self-directed learning, and gamification. Students were motivated to achieve goals, master content, and move up in math groups through self-directed efforts. The students found computer games and software fun and helpful in practicing and learning math and other subjects effectively.

In terms of the skills and characteristics needed to be successful in flex blended learning, two themes also emerged: time management and work completion and respect and responsibility. Students felt their ability to manage their time and their ability to work independently were necessary skills for being successful and felt gratification in being able to do so. One identified strategy in managing time was completing easier tasks first before moving on to harder tasks. Respect and responsibility were also highlighted as important characteristics for success; students felt that respecting the teacher's direction and feedback helped them to be successful. Students also recognized their ability and willingness to take on responsibility for their own learning as an important skill.

A recommended change to the blended learning experience was extended time to complete work. Another recommended change identified was fewer task/assignment expectations.

Conclusions

In an elementary setting, students perceive both barriers and benefits to flexible blended learning. Students found independent or self-directed learning as both a challenge and a benefit; managing one's own time or being responsible for one's own learning can be difficult but rewarding when accomplished. Additionally, the students pointed out classroom noise as an obstruction to their learning and studying. Technology comes with glitches which can be frustrating, yet using technology programs, particularly gamification, can promote motivation, engagement, and skill practice. Students recognize skills that will help them be successful in blended learning, like taking responsibility for their learning, managing their time, and listening to teacher direction and feedback. Extending the time for completing independent work in consideration of task and assignment expectations could address some identified barriers in flexible blended learning. Overall, this study provides valuable insights into the experiences of fourth-grade students in a flexible blended learning environment and highlights the importance of addressing the specific barriers brought up and supporting the students' development of necessary skills and characteristics to succeed in a classroom based flexible blended learning environment. The findings of this study can inform the design and implementation of blended learning programs that promote student engagement, motivation, and success. However, future research is needed to explore the generalizability of these findings to other contexts and populations.

Discussion

In this study, students felt challenged with the ability to work independently and/or self-directed learning in flexible blended learning, the students were clear on the barriers and successes they encountered. The challenges were not surprising as research has shown the ability to work

independently and self-manage time in blended learning is a struggle for students of various age levels, including college-aged students (Broadbent, 2017; Maycock, Lambert & Bane, 2018; Larson, 2012; Rao et al., 2021; Sun et al., 2017; Wijsman et al., 2018; Zacharis, 2015) and lack online peer learning and help-seeking strategies (Broadbent, 2017). Students described internal distractions, such as losing attention and focus, and external or environmental distractions, such as talking and disruptive behaviors by classmates, as challenges or barriers to independent learning during flexible blended learning. Students found it difficult to concentrate when other students talked loudly or engaged in disruptive behavior, leading to an atmosphere of chaos in the classroom. In the context of blended learning, it can be advantageous for both teachers and students to possess a thorough understanding of potential distractions that may arise. This awareness can facilitate the development and implementation of effective coping mechanisms, as well as adjustments in guidance and organization to minimize the impact of such distractions. Therefore, it is recommended that educators prioritize educating students on how to manage and mitigate these distractions to optimize the learning experience in blended environments (Fryer & Bovee, 2016). Fortunately, students' abilities to work independently and self-direct their own learning can be nurtured and supported by the teacher (Fryer & Bovee, 2016; Sain & Bowen, 2022). Teachers can help students develop important soft skills like time management, communication, and listening skills, and help-seeking strategies needed to be successful independent learners in blended learning (Sikour & Barbour, 2022). However, to increase teachers' knowledge and skills to more effectively support students and plan effectively in blended learning, professional development is essential (Amro & Borup, 2019; Crawford & Jenkins, 2018; Dukes et al.; 2006; Howard et al., 2022; Kaleta et al.; 2007; Lee & Im, 2006; Lefroe & Heberg, 2006; Parks et al.,2016; Spiteri & Rundgren 2020).

Another identified barrier to student motivation and engagement in a flexible blended learning environment was engagement, particularly when viewing video lectures/lessons. Students mentioned the length of the videos, being too long or detailed leaving them feeling bored or overwhelmed, additionally, the redundancy of the videos, covering topics they already knew, leaving them disengaged. Video lectures/lessons were found to be a passive learning experience, where students were merely watching and not actively engaging with the content, a similar finding to Blackstock et al., (2017) and Ilin (2022) (2022). As a result, some students preferred learning independently or asking their teacher or classmates for assistance instead of watching video lessons. They found that interacting with others gave them the opportunity to gain experience or a new perspective on a problem, while video lessons were repetitive and lacked flexibility. The barriers mentioned in using video lectures/lessons may decrease as researchers are increasingly exploring the advantages of incorporating various forms of interactivity into video lectures, such as quizzing, polling, drag-and-drop, and annotation (Cundell & Sheepy, 2018; Donkin et al., 2019; Fish et al., 2016; Fleischmann, 2021; Goldingay & Land, 2014; Taylor et al., 2015); the benefits of adding interactivity to asynchronous video lectures include increased student engagement and retention (Fleischmann, 2021), as well as the ability to provide learners with instantaneous feedback (Donkin et al., 2019). Teachers should consider these features when selecting video lectures/lessons for blended learning.

Another barrier to participation in flexible blended learning was technology. Students commented on difficulties or glitches that occurred with the various programs and applications they were required to utilize in their flex blended learning classroom. Students talked about feeling angry and frustrated when they made mistakes and needed to retype, or answer prompts multiple times; this frustration affected their motivation to continue learning. Technology

difficulties have been identified as a barrier to blended learning in other studies, noting that technical problems like connectivity issues, software glitches, and hardware malfunctions can interrupt instruction and prevent participation in online classes or completion of assignments causing frustration for students (Bernard et al., 2014; Conrad & Openo, 2018; Greenhow et al., 2020; Warschauer, 2011). Although glitches in technology are not within the control of the teachers or students, schools can invest in technology infrastructure (Van Dijk et al., 2020) and up-to-date programs and applications (Hainey et al., 2011) that may at least minimize these issues.

The benefits of blended learning identified by the students centered around autonomy, mastery, self-directed learning, ironically as this was also identified as a barrier, and gamification. The students found it enjoyable and rewarding to move to higher math groups by achieving a goal or mastering the content through their own efforts. They talked about the importance of self-improvement and learning that occurred during independent learning tasks expected in blended learning; when students were successful, they appreciated the opportunity to be self-directed and independent learners. Comparably, studies have found self-regulated learning with positive results increases students' self-efficacy in blended learning (Broadbent, 2017; Jansen et al., 2019). Gamification, or using computer games and software for learning purposes, was identified as a benefit of blended learning. Students found games to be fun and engaging and highlighted the skills practice games provided. This is a similar finding to other studies that identified digital games as an effective educational tool that can enhance students' motivation, attitudes, and academic performance (Bai et al., 2012; Beserra et al., 2014; Lin et al., 2013; Rayya & Hamdi, 2001; Vogel et al., 2006; Yeh et al., 2019). Teachers should consider digital games that incorporate formative assessment and relevant feedback to best impact

learning and motivation (Erhel & James, 2013; Gee, 2003; Guillen-Nieto & Aleson-Carbonell, 2012; Jule, 2013; Salen, 2008; Sharritt & Suthers, 2011).

Students identified time management and work completion as essential skills needed to be successful in blended learning. This is related to the identified challenge of their inability to work independently due to a lack of time management and ability to stay focused. Students were reflective and insightful in identifying these as necessary skills. Other studies have also identified time management as a necessary skill to be successful in blended learning (Kiekel, 2007; Larsen, 2012; Rao et al., 2021; Sikor & Barbour, 2022).

The fourth-grade students mentioned topics they would like managed differently in the flexible blended learning classroom. The main theme that emerged from the students' comments was the limited time given to complete the expected work; this lack of time overwhelmed them causing feelings of frustration. The students' comments highlighted the challenges they face due to the pacing of the class and the workload expected in this particular flexible blended learning classroom. The students expressed the need for more time to complete the online components and to manage the workload given by the teacher. However, due to the age of the students, poor self-regulation and time management could play a part in this stress (Kiekel, 2007; Rasheed et al., 2020), conversely, research shows these skills are not necessarily age-dependent, but necessary in a blended learning model (Sikor & Barbour, 2022).

Implications for Practice and Policy

The study conducted was of significance in several ways. Firstly, through the lived experiences of a fourth-grade teacher and her students, the researcher expanded upon the existing knowledge on the implementation of a flexible blended learning model in an upper elementary classroom. The study provided a more profound understanding of the appearance of flexible

blended learning in a classroom and presented valuable insight into the barriers, challenges, motivators, and skills that an educator would need to comprehend concerning older elementary students' use of flex blended learning. Furthermore, the study offered insight into the implementation of a flexible blended learning model in a Title I upper elementary classroom situated in a rural Midwest city that caters to a socially and economically diverse population, including a sizable Native American community.

Noise in the flexible blended learning classroom was a barrier to student learning. Noise, as discussed by the students in this study, may have possible implications for student learning and successful outcomes. The relationship between noise interference and annoyance is unclear within the research literature, and it is not yet clear whether these constructs are overlapping or dissociable, and whether they involve different cognitive mechanisms; research suggests that these constructs may be distinct (Massonnié et. al., 2022). Massonnie et al. (2022) noted in their study, children who reported difficulties with hearing and switching tasks experienced more interference and annoyance from noise. Additionally, children who were more prone to loss of focus also experienced more interference from noise, but their level of annoyance was only related to the extent that the noise caused interference. The relationship between loss of focus and noise annoyance was not direct, as indicated by the study's findings (2022).

According to Vander Ghinst et al., (2019), the ability of young children to track and differentiate between voices in the presence of background noise is more challenging for their developing brains compared to older students and adults. This finding has implications for teachers who are using flexible blended learning approaches, as they need to consider how classroom noise may affect their students' ability to learn, when using technology and peer feedback control for noise levels should be considered. Overall, Vander Ghinst et al.'s (2019)

research highlights the importance of considering classroom noise as a factor that can affect students' learning, particularly in flexible blended learning contexts. By proactively addressing the issue of noise, teachers can create a more supportive learning environment that meets the needs of all students. Teachers can use techniques to improve students' focus, such as providing clear instructions, breaking down tasks into manageable steps, and using engaging activities that capture students' attention. Furthermore, teachers can use noise-reducing strategies, such as providing quiet spaces for students to work, using noise-cancelling headphones, and playing soft background music or white noise to mask distracting sounds, or use of noise meters.

The implications of the students' disengagement and passive learning experiences are significant for educators and instructional designers who are using video lessons in their teaching (Blackstock et al., 2017). One implication of the statement above is that when designing video lessons, it is important to make them engaging and dynamic rather than simply presenting information that students may already know. The study suggests that using interactive elements judiciously may provide engagement for students. Therefore, teachers should consider incorporating interactive elements such as questions and short responses into video lessons to make them more engaging for students. By doing so, teachers can help students stay focused and retain the information presented in the video lessons. Additionally, teachers can also consider incorporating other strategies such as using humor, incorporating real-world examples, and varying the pace of the lesson to keep students engaged and motivated.

Motivation factors need to be considered, as the students pointed out games enhanced their motivation, attitude, and academic performance. Additionally, providing immediate feedback impacts learning and motivation. Students pointed out that games enhanced their motivation, attitude, and academic performance. Teachers can incorporate game-based learning

activities into their lessons, such as digital games, quizzes, and puzzles, to make learning more interactive and fun for students. This approach can also help to improve students' retention of information and their problem-solving skills. Additionally, educators who encourage student participation in play recognize its potential to revitalize their enthusiasm and motivation to learn (Ali et al., 2023). They view it as an indispensable element of education that is interconnected with human development across social, creative, and emotional domains (Ali et al., 2023).

Lastly, teachers can provide support and guidance on improving soft skills related to student success in blended learning environments. According to John Dewey, our learning doesn't come from experience alone but from the process of reflecting on our experiences (1910). When students are engaged in meaningful and stimulating tasks, they have a chance to evaluate their own performance, consider what they have learned, and establish goals for their future learning. Teacher can use a series of prompts that can help encourage students to engage in self-assessment, reflection, and goal setting. Teachers can teach time management and help-seeking skills to improve students' success as independent and self-directed learners.

Recommendations for Further Research

A cross-school and/or cross-grade level investigation of the flexible blended learning phenomenon, including schools of diverse socioeconomic backgrounds is recommended. This approach would offer a comprehensive understanding of blended learning from the perspectives of students with varying backgrounds and varying age levels. The current study solely examined students from the same grade, a similar socioeconomic standing, and a small population, resulting in a limited portrayal of the flexible blended learning model.

A study is recommended to examine the degree of specific distractions elementary students encounter during blended learning, for example, noise from classmates. Quantifying the

degree of distractions within elementary blended environments would provide insight into limiting distractions that are found to occur at higher degrees or in developing coping mechanisms to overcome these distractions.

A study to measure the "soft skills" being taught and developed in blended learning classrooms is recommended. These skills may include persistence, self-control, time management, curiosity, conscientiousness, grit, self-confidence (Tough, 2012) and social skills and cultural competencies required for active participation in a participatory culture (Tough, 2012).

A study is recommended that examines the use and effectiveness of online videos in blended learning environments. There is a disconnect between the ways that students and teachers use videos. A deeper understanding of how and why teachers use videos, students' perceptions and use of videos, and the advantages and disadvantages of using videos would be helpful in guiding instructional decisions regarding their use.

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APPENDIX A
STUDENT FOCUS GROUP DISCUSSION SCRIPT

Student Focus Group Script

You have been working with flexible blended learning for a long time now. When you are in flex blended learning, you have learned all about your computers and how to move from one application to the next. You have also learned how to use computers to learn new things. In flexible blended learning you watch videos to learn new things, and to practice older things you learned. You meet with your teacher based on what she notices you need daily in math, reading and writing. We have invited you here today to share what you have learned. You are the experts at this, and we want to use what you know to help other teachers learn about flex blended learning. Let me explain how this is going to work today. In front of you, there is a computer with a microphone. This microphone and computer are going to record our conversations, so Mrs. Nelson can hear your great ideas later. When she listens to it, she will want to know who is speaking, so I am going to give you a number. Before you answer the question, just say that number, so Mrs. Nelson will be able to keep track of who is talking. She will not know your name, but she will know your number. Be sure to speak loudly and clearly and only one person at a time. Also, don't be afraid to say the good and the not so good things that you know about blended learning. We want to learn as much as we can about blended learning. While we are sharing what we know about blended learning, we will also be sharing our opinions, so there is no right or wrong answer. Everyone's opinion does not have to be the same. It is okay to politely disagree with someone else's ideas. Do you have any questions? (Answer any questions the students have.) Let us get started.

To help Mrs. Nelson hear all your voices, let's all start by just saying our numbers one at a time, so she will know how many of us there are. (Have each child say his or her number individually).

Ask each question one at a time. Give plenty of wait time and opportunities to speak before going on to the next question. Remember to have the students say their number before answering.

Please take notes on any nonverbal behaviors that might help in understanding the students' responses. For example, were the students overly excited or nervous? How did the students communicate with one another? Did they easily include everyone in the group, or were there students who seemed very shy in the group and needed more support to participate? Did the students appear to be comfortable sharing their ideas with the group etc.

1. What is the best part of flexible blended learning?
2. What is the worst part of flexible blended learning?
3. Have you had any problems during flexible blended learning? How did you fix them?
4. What advice would you give to students who have never done flexible blended learning?
5. Do you have anything else you would like to share about your experience in flexible blended learning?
6. If you struggled to stay engaged with your learning, why do you think you struggled?
7. What do you think makes a student successful during flexible blended learning?
8. Are you successful at flexible blended learning?

Thank you for sharing your thoughts with us today. Mrs. Nelson will take this conversation and use it to help other teachers who want to learn more about flex blended learning.

APPENDIX B

IRB APPROVAL FOR



Date: May 19, 2022

The University of South Dakota
414 E. Clark Street
Vermillion, SD 57069

PI: Susan Gapp

Student PI: Johanna Sailor, Amanda Bauer, James Leuthold

Re: Initial - IRB-21-196, *A CASE STUDY OF FLEXIBLE BLENDED LEARNING IN A FOURTH GRADE CLASSROOM*

The University of South Dakota Institutional Review Board has approved this study. The approval is effective starting May 19, 2022 and will expire on May 18, 2023.

Decision: Approved

Category: 7. Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

Research Approvals: Focus Group Questions, Date Stamped Parental Consent, Date Stamped Assent, Date Stamped Focus Group Script, Research with Children

Dear Susan Gapp,

The study submission for this proposal has been reviewed and approved under the procedures of the University of South Dakota Institutional Review Board.

In the "Attachments" section in Cayuse for your study you will find the original consent document that has been stamped with IRB approval and expiration date. You **must** keep this original on file. Please use the stamped document to make copies for subject enrollment. **No other consent form should be used.** Each consent form **must** be signed by each subject prior to beginning any protocol procedures, and each subject must be given a copy of the signed consent form.

No changes may be made to your study protocol unless they are first approved by the IRB. If you want to update or change your protocol, you must file an amendment application with the IRB in Cayuse. If you are uncertain whether something you are doing might require an amendment, please contact the IRB at the phone number or email address below.

APPENDIX C

INFORMED CONSENT FORM—GUARDIANS/PARENTS

INFORMED CONSENT

The University of South Dakota

TITLE: *A PHENOMENOLOGICAL STUDY OF FLEXIBLE BLENDED LEARNING IN A FOURTH GRADE CLASSROOM*

PROJECT DIRECTOR: *Dr. Susan Gapp*

PHONE #: *605-XXX-XXXX*

Department: *Department of Education, Curriculum, and Instruction*

Invitation to be Part of a Research Study

Your child is invited to participate in a research study. In order to participate, he/she must be a fourth-grade student enrolled in General Beadle Room 205. Taking part in this research project is voluntary. Please take time to read this entire form and ask questions before deciding whether to take part in this research project.

What is studying about and why are we doing it?

The purpose of the study is to gain the student's thoughts and perspective on flexible blended learning in the classroom. In Flexible blended learning the teacher gives the students most of learning and independent work online, but in a traditional classroom school setting. Teachers guide students through learning and provide one-on-one or small group help when needed.

About thirty people will take part in this research.

What will happen if your child takes part in this study?

If you agree to allow your child to take part in this study, he/she will be asked to be part of a focus group. The students who opt out of the study will continue to participate in the flexible blended learning activities; their perceptions and reactions will not be recorded in the data set.

The students will be asked to participate in small group focus interviews during the school day. In these focus groups each student will share their thoughts, feelings, experiences on the flexible blended learning they are using in the classroom. The children will discuss what was a struggle, and a success. The students will be asked to think about what kind of personality traits they need to be successful, and can they identify these traits in themselves. As the students discuss the questions posed, the research assistant will be moderating the discussion to allow all student participants to voice their thoughts and will ask probing questions to elicit detailed and clear answers.

The discussions will be audio recorded via Zoom and will be electronically dictated and transcribed; the transcriptions will be analyzed after the data collection period had ended. The students will not mention their names during the focus group discussion for the sake of confidentiality. Each focus group interview should take about 30 to 45 minutes of the school day. This will only happen twice during the study. The study will only last roughly six weeks.

This study will not cover a particularly sensitive or painful topic for the students. Since this is a group discussion, the students can choose how much they want to share, and the child is free to skip any questions that he/she would prefer not to answer.

Your Child's Participation in this Study is Voluntary

Your child's participation in this research project is strictly voluntary and you or your child have the right to withdraw your student at any time without penalty, meaning there will be no effect to

the student's grades or the academic experience the students receive. All students will receive the same flexible blended learning environment even if the student withdraws or chooses to remain in the study. Only the students who will be participating in the study will be asked to share their perspectives in the study.

It is up to you and your child to decide if he/she would like to be in this research study.

Participating in this study is voluntary. Even if he/she decides to be part of the study now, he/she may change his/her mind and stop at any time. Your child does not have to answer any questions he/she does not want to answer. If your child decides to withdraw before this study is completed, the information your student provides in the questionnaire and student focus group interviews will not be identified in connection with any results or reporting of results. All participants will be given a number instead of using their name.

All information received will be confidential and treated with professional discretion the videos and the transcription of focus group discussions will be held by the outside research assistants.

The research assistants will be able to choose to store the Zoom recordings on their device(s) using encryption to protect the data or they could choose to store the recordings in an external hard drive. These recordings will be passcode protected. Once the study is completed, the data stored on the external hard drives will be reformatted destroying everything on it permanently.

The external drives will also be physically crushed.

What other choices does your child have if he/she does not take part in this study?

If your student is not a participant in the study, they will participate in the same flexible blended learning classroom environment as the students who have chosen to participate in the study. All students in the classroom will receive the exact same flexible blended learning environment.

What risks might result from being in this study?

Your child may experience nervousness and some communication frustrations that are often experienced when participating in a group interview. To minimize these risks, we will allow the students to freely discuss the questions amongst themselves, and to answer freely. Groups will be kept small, and group focus interviews will be in a private location. The researchers anticipate no risks in participating in this research beyond those experienced in everyday life.

How could your child benefit from this study?

Although your child will not directly benefit from being in this study, others might benefit because student perspectives into their education and learning is valuable to educators. Other educators maybe be able to choose to implement flexible with their classrooms.

How will we protect your child's information?

The records of this study will be kept confidential to the extent permitted by law. Any report published with the results of this study will remain confidential and will be disclosed only with your permission or as required by law. To protect your child's privacy, we will not include any information that could identify him/her. We will protect the confidentiality of the research data.

The participants will not be allowed to give their personal names. The participants will be given a random number by the research assistant who will be moderating the focus group. The research assistants will not share the student number with the researcher. The participants will only be allowed to use their random number, students will be instructed to keep the random number private and not discuss their number with anyone outside of the focus discussion group. The research assistants will destroy the numbered student names after the second interview.

It is possible that other people may need to see the information we collect about your child. These people work for the University of South Dakota, and other agencies as required by law or allowed by federal regulations.

Contact Information for the Study Team and Questions about the Research

The researchers conducting this study are Dr. Susan Gapp and Betsy Nelson. You may ask any questions you have now. If you later have questions, concerns, or complaints about the research please contact Dr. Susan Gapp and Betsy Nelson (605-XXX-XXXX) during the day. Dr. Susan Gapp and Betsy Nelson (605-XXX-XXXX).

If you have questions regarding your rights as a research subject, you may contact The University of South Dakota- Office of Human Subjects Protection at (605) XXX-XXXX. You may also call this number with problems, complaints, or concerns about the research. Please call this number if you cannot reach research staff, or you wish to talk with someone who is an informed individual who is independent of the research team.

Your Consent

Before agreeing to be part of the research, please be sure that you understand what the study is about. You can print a copy of the document for your records. If you have any questions about the study later, you can contact the study team using the information provided above.

I understand that by signing below, I permit my child to participate in this research. I understand that I am not waiving any legal rights. I have been provided with a copy of this consent form.

Child's Name: _____

Signature of Person Authorized to Provide Permission for the child

Date

APPENDIX D

PARENT HANDOUT FOR RESEARCH PROCESS AND PROCEEDINGS

Parent Handout for Research Process and Proceedings

Dear Parents/Guardians,

I will be conducting a research project this year in General Beadle room 205. I would like to invite you and your student to participate in a research study entitled “A Phenomenological Study of Blended Learning in a Fourth Grade Classroom”. This research is being conducted as part of a doctoral dissertation to fulfill the requirements for the degree of Doctor of Education in the K-12 Curriculum & Instruction division at the University of South Dakota.

The process for the study will be as follows:

1. Students will be allowed to settle into the school year to become accustomed to the structure of the school day and to learn the rules and expectations of the classroom before any research begins.
2. Students will be chosen from only the General Beadle room, 205 students.
3. Parents/Guardians and students will be given consent forms for voluntary participation. Your child’s participation in this research project is strictly voluntary and you or your child have the right to withdraw your student at any time without penalty.
- , 4. Consent forms will be gathered, and a participation list will be compiled.
5. Students will be asked open-ended survey questions; answers will be recorded and transcribed.
6. All recorded surveys and interviews along with all transcribed interviews will be maintained in a password and encrypted file storage.
7. All data and information will be compiled by the researcher into the formal doctoral dissertation document.

11. Doctoral dissertation document will be submitted to Doctoral Committee for review.
12. Doctoral candidate will defend the doctoral dissertation before the Doctoral Committee.
13. Doctoral dissertation will be published.

I will be sending out Parent/Guardian Consent forms later this semester asking for your permission to allow you and your student to partake in this research study. I hope you will actively consider allowing your child to participate!

Thank you,

Betsy K. Nelson

Dr. Susan Gapp, Advisor

Division of Curriculum and Instruction

University of South Dakota

605.658-6643