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THE USE OF BLENDED LEARNING IN HIGH SCHOOL CLASSROOMS

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ABSTRACT

Blended learning is the instructional practice that involves both face-to-face and online learning in classroom instruction. The problem at a small rural school district in the South Carolina is, despite strong evidence of the benefits and use of blended learning, many classroom teachers at the high school level still fail to consistently implement the online component of blended learning to maximize these benefits. Therefore, the purpose of this basic qualitative study was to explore teachers' perceptions of ease of use and usefulness of blended learning, how they implement it, and challenges they have with implementation. The conceptual framework for this study is the technology acceptance model. Research questions involved teachers' perceptions of ease of use and usefulness of blended learning, how they implement it, and challenges they have with implementation. Data was collected by interviewing 12 participants via semi-structured telephone interviews. Interviews were recorded, transcribed, and analyzed using a five-step analysis method for thematic analysis: compiling, disassembling, reassembling, interpreting, and concluding. The findings suggest that teachers perceive blended learning as easy to use and useful. Also, teachers use either the flipped classroom model or face-to-face driver model for blended learning implementation. Further, participants cited Internet access and teacher technology competencies as challenges preventing blended learning implementation, while support, one-to-one initiatives, and professional development allowed for successful implementation. The findings of this study have social change implications in high school classrooms. Both teachers and administrators will gain valuable knowledge to help them make decisions regarding blended learning implementation to break down barriers preventing blended learning in classroom instruction.

Keywords: blended learning, instructional strategies, highschool education, teacher instruction, instructional practice.

INTRODUCTION

The use of technology in K-12 classrooms has been steadily increasing. Kellerer et al. (2014) stated that there was a dramatic increase in the number of high school students taking at least one online course, from 570,000 to over 6.5 million. Kellerer et al. (2014) predicted that this increase would continue whereby at least 50% of high school courses will be offered online by 2019. Lalima and Dangwal (2017) defined blended learning as an innovative concept that allows teachers to use technology-supported learning with traditional classroom teaching. According to Lalima and Dangwal (2017), schools adopt new technologies and explore new strategies for integrating technology to give all students equal educational opportunities.

Carver (2016) suggested that the use of technology in the classroom could positively affect student motivation, attitude, engagement, and self-confidence. Integrating blended learning in classroom instruction can also help students improve organization and study skills and academic achievement (Carver, 2016). Therefore, according to Carver, the increased use of blended learning in K-12 classrooms resulted from the fact that it facilitates and improves student engagement and learning.Many teachers experience challenges with the implementation of blended learning. Nevertheless, an increased number of high school teachers use blended learning to aid instruction (Blaine, 2019).

According to Lightner and Lightner-Laws (2016), teachers find it challenging to effectively integrate the online component of blended learning into classroom instruction. Brown (2016) also suggested that some teachers lack the literacy and competency skills needed to implement blended learning successfully. Lalima and Dangwal (2017) indicated that teachers must receive training on integrating technology and developing content in a digital form to implement blended learning successfully. Teachers must also have a positive attitude towards the blended learning process and a positive approach to change (Lalima&Dangwal, 2017). If implemented with the right attitude, blended learning could become the educational system's future (Lalima&Dangwal, 2017). Therefore, with training and a positive attitude, teachers can overcome challenges faced when implementing blended learning in classroom instruction to help students benefit from blended learning.

It is critical to explore how high school teachers are implementing blended learning in their classroom instruction. Culbertson (2018) suggested that exploring teacher perception of blended learning implementation will provide educators with research-based approaches that could improve blended learning instruction that facilitates the development of students' academic, personal, and social skills. Consequently, this study may impact social change by informing the practice of many educators seeking technology integration strategies that can improve students' academic performance and high school persistence.

ProblemStatement

The problem is despite strong evidence of the benefits and use of blended learning, many classroom teachers at the high school level still fail to consistently implement the online component of blended learning to maximize these benefits. There is a significant gap in practice regarding implementing the online component of blended learning. According to Turner et al. (2018), technology-enhanced blended learning, a driving force in educational reform, is rapidly expanding as more than half of high school students enroll in blended learning courses by 2019 during their high school tenure. The federal Every Student Succeeds Act (ESSA), signed in 2015, may led to 42% percent of high schools adopting the blended learning model for online credit recovery to improve graduation rates (Noble et al., 2017). According to the ESSA, all states must ensure all students meet their academic goals, close academic achievement gaps with other students, and raise high school students' graduation rates (United States [U.S.] Department of Education, 2020).

The blended learning model for online credit recovery allows students to retake failed courses and earn needed credits to meet graduation criteria (Noble et al., 2017). Irawan et al. (2017) suggested that blended learning can increase student interest and enthusiasm for academics. Also, Irawan et al. found that blended learning is a solution for overcoming learning difficulties. Compared to students in a traditional learning environment, students engaged with blended learning had a significant increase in learning outcomes as students learning outcome increased by 82% with blended learning instruction compared to the 73% increase in the traditional learning instruction (Irawan et al., 2017). However, the implementation of blended learning is inconsistent, causing a gap in practice. High school teachers must consistently implement blended learning to meet ESSA requirements and improve students' academic achievement.

Furthermore, issues with consistently implementing blended learning in classroom instruction exist both locally and nationwide. According to Lawrence and Tar (2018), many teachers face problems, such as lack of resources to support blended learning, technical support, and training, which prevents them from implementing blended learning with fidelity. Some teachers in K-12 schools located in the Midwest also reported that lack of time to integrate technology in classroom instruction and inability to keep up with technology changes had impeded their efforts to implement blended learning (Hsu, 2017). Edannur and Marie (2017) found that teacher perception and attitude and lack of training are critical factors contributing to teachers' reluctance to integrate blended learning. However, the extent to which teacher perceptions affect decisions to implement blended learning is unknown. Moreover, with limited literature regarding teachers' perceptions of blended learning in high schools, many teachers remain unaware of the benefits (Turner et al., 2018).

According to the South Carolina State Department of Education (2017), many blended learning tools are aligned to state standards and designed to improve student performance and increase the graduation rate. The South Carolina State Department of Education reported an increase in the state's high school dropout rate from 2.3% to 2.4% between the 2015-2016 and 2016-2017 school years. In a high school in a rural school district in South Carolina, the school report card's overall rating for 2018 was 57/100 and 51/100 in 2019, respectively. Student academic performance is weighed as 30 out of the total score of 100 on the report card based on end of course assessments in English 1 and Algebra 1 (South Carolina State Department of Education, 2019). However, this high school received below-average grades for both years in terms of student academic performance, with scores of 12.18/30 in 2018 and 10.20/30 in 2019 (South Carolina State Department of Education, 2019). The high school implemented blended learning to improve student achievement. According to Noble et al. (2017), high schools across the U.S.use technology-aided credit recovery to reduce dropout rates. Therefore, with blended learning implementation, high school students' academic achievement could improve, thus improving graduation rates.

At the same rural high school in South Carolina, the principal stated that there are no established technology plans. Teachers and students were issued one-to-one technology tools and received ongoing training in technology implementation and blended learning. However, the Instructional Technology Specialist at this high school said many teachers do not consistently integrate blended learning. The Instructional Technology Specialist also noted that some teachers are reluctant to integrate technology into their classroom instruction. According to the principal at the same high school, approximately 50% of teachers consistently implement blended learning. By contrast, some teachers choose one online technology and refuse to learn new technologies. The use of technology in the classroom as a learning tool has increased over the last decade, with many schools adopting one-to-one technology (Henderson-Rosser & Sauers, 2017).

Purpose of the Study

The purpose of this basic qualitative study was to explore teachers' perceptions of ease of use and usefulness of blended learning, how they implement it, and challenges they have with implementation. The use of technology in high school core content classrooms has been steadily increasing (Lalima&Dangwal, 2017). Carver (2016) suggested that using technology in K-12 classrooms could positively affect student motivation, attitude, engagement, and self-confidence. However, the district's technology specialist stated that teachers are not consistent in terms of implementing blended learning. Using the interpretive paradigm, this phenomenon was explored by interviewing 12 core content high school teachers who teach mathematics, science, English language arts, and social studies/history and have had at least 1 year of experience implementing blended learning in their classroom instruction.

Research Questions

The following qualitative research questions guided thisbasic qualitative study:
RQ1: What are core content teachers' perceptions of the ease and usefulness of blended learning?
RQ2*:* How do core content teachers implement blended learning in their classrooms?
RQ3: Whatareteachers' perceptionsofchallengesrelatedtoimplementingblendedlearning?

MATERIALS AND METHODS

The purpose of this basic qualitative study was to explore teachers' perceptions of ease of use and usefulness of blended learning, how they implement it, and challenges they have with implementation.

Using open-ended semi-structured interviews, data was collected for analysis to address the research problem. According to Merriam and Tisdell (2016), researchers use basic qualitative research to understand meanings individuals construct as they experience a phenomenon.

Participant Selection

Participants were selected using purposeful sampling. Purposeful sampling allows researchers to select participants based on their experience with the phenomenon they are exploring (Creswell & Clark, 2017). The study is limited to high school core content teachers with at least one year of experience implementing blended learning.

Also, since there is only one high school with 32 core content teachers in the district, a minimum of 10 teachers were asked to participate. Saunders et al. (2018) suggested that at least 10 interviews are adequate to achieve saturation. Since a minimum of 10 is acceptable for ensuring saturation, the plan was to recruit more than the minimum number of participants to address attrition.

An email was sent to all core content teachers within the high school, detailing the purpose, nature, and criteria of the study and inviting them to participate if they met the criteria. Informed consent form were attached to emails. Based on responses to the first email, 12 interested participants, who indicated they had at least 1 year of experience using blended learning, were invited to participate in a 45-60 minute semi-structured telephone interview. Also, to ensure participation and saturation, interviews were scheduled at dates and times that were convenient for themand telephone interviews were conducted as scheduled.

Instrumentation

Interviews served as the data collection tool for this study. According to Ravitch and Carl (2016), interviews provide "deep, rich, individualized, and contextual data that are centrally important to qualitative research" (p. 146). This allowed for focused insights into participants' real-life experiences and how they make sense of and construct meaning or ideas about a phenomenon (Ravitch & Carl, 2016). Semi-structured interviews facilitated the collection of qualitative data regarding teachers' PU, PEU and implementation of blended learning technology. Interview questions helped in terms of gaining insights into core content teachers' lived experiences and perceptions regarding blended learning implementation in classroom instruction. Interviews consisted of 12 open-ended interview questions that align with research questions.

An interview protocol containing the interview questions was used to guide the interview.The interview protocol was created because there was no suitable published interview protocol to effectively collect data needed to provide insight into this study. Also, interview questions were created that were easily understandable and lead to data required to address research questions. Interview questions were also aligned with research questions to ensure validity of data.

A panel of five experts reviewed the interview guide to assess the appropriateness and quality of the research questions and determine validity. Experts were chosenbased on their qualifications, expertise, and experience in doctoral research, specifically qualitative research and blended learning. Experts reviewed interview questions to ensure clarity, validity, and relationships to the stated problem and framework. Kallio et al. (2016) said the assessment of an interview guide by external specialists allows the researcher to gain valuable guidance regarding the relevance of interview questions, correct wording, and arrangement the questions. Also, assessment by external specialists helps the researcher determine appropriateness and completeness of questions in terms of fulfilling the aims of the study (Kallio et al., 2016). Therefore, adjustments to questions were made based on feedback from the panel of experts.

A field test was conducted of the interview guide with nonparticipants, who have experience implementing blended learning in their classroom to establish interview questions' sufficiency in terms of answering the research questions. Participants for the field test were coworkers and friends from a local middle school. According to Kallio et al. (2016), field testing provides researchers with valuable information about the relevance of questions and whether they elicit data that answer research questions. Recorded and transcribed interviews using the Otter application software were conducted. Additionally, notes were written during interviews with the aid of an interview guide. Based on the participants' feedback during the field test, interview questions did not need any adjustments. They were worded correctly in a logical sequence, and suitable for answering research questions.

Data Collection

Data were collected using telephone interviews. The first 12 participants who expressed interest in participating in interviews and completed the informed consent form were interviewed. With the telephone interviews, the participant is more flexible with time for participating in the study and can participate from the comfort of their home (Gill & Baillie, 2018). Additionally, participants performed member-checking by reviewing interview transcripts for accuracy and making any necessary corrections (Merriam &Tisdell, 2016). Participants were given one week to complete this review process. Once the participant reviewed, clarified, and confirmed the data in the interview transcript, the participant was exited from the study, as no follow-up interviews were necessary.

DATA ANALYSIS AND RESULTS

The research questions that guided this study were about high school core content teachers and their perceptions of the ease and usefulness of blended learning, how they implement blended learning in their classrooms, and perceived challenges related to implementing blended learning.

Using open-ended interview questions, answers were generated from participants, as they relayed their perceptions, experiences, and knowledge of blended learning implementation. Davis' TAM and its tenets PEU and PU were used to address how they influence user acceptance and intention to use. After conducting interviews, the thematic analysis process using Yin's five steps was used for analyzing qualitative data: compile, disassemble, reassemble, interpret, and conclude.

Step One: Compile

Data was compiled by recording and transcribing interviews. Participants engaged in the member-checking process, which allowed each participant to review interview transcripts for accuracy. After participants completed this process, responses for analysis were collated.

Step Two: Disassemble

Data was dissembled to create meaningful groups of ideas by coding to identify patterns, similarities in features, order of presentation, context, and meaning. The transcript was then uploaded into NVivo software and began the first cycle and descriptive coding to identify recurring words or codes within transcripts. 135 codes were generated, including codes generated by NVivo and those identified by hand-coding transcripts. During the second cycle, axial coding was used. Axial coding involves categorizing coded data. Using second cycle axial coding, initial codes identified were analyzed during the first cycle coding phase to identify similarities, patterns, and connections between them. Categories were then created.

Step Three: Reassemble

The codes and categories identified were then reassembled to form themes. A table was created with research questions, codes, and categories from participant responses to interview questions. By organizing codes and categories in the table, a broad visual representation of data was apparent. Codes were examined and categories for similar patterns and meanings relevant within the context of research questions. Similar codes and categories to form themes were grouped, that led to answers to research questions. Further examination and analysis of each theme occurred to ensure they supported the research questions and there was enough data to support each theme. Subthemes from some of the emerging themes (see Table 1 below).

Step Four: Interpret

Analytic conclusions were created by interpreting themes identified in the data. This includes a discussion of the relationships between themes and answers to the research question. The themes ease of navigation and user-friendliness, providing teacher/student feedback, promoting student independence/autonomy, student interest and engagement, and enhanced/extended learning were used to provide answers to RQ1. The themes blended learning, flipped classroom, face-to-face model, and teachers' perceptions and blended learning were used to answer RQ2. Further, RQ3 was answered using the themes lackof resources, teacher technology competence, and factors enabling successful blended learning implementation.

Step Five: Conclude

Conclusions were made by using themes derived from analysis. Based on RQ1, it was concluded that participants believed that blended learning tools are easy to use as they are user-friendly, easy to navigate, manageable for all students, and adaptable to all devices. Participants also stated that blended learning is useful for engaging students in the learning process, gaining their prior knowledge and misconceptions, and engaging them via personal learning by providing individual learning activities for remediation or enrichment.

Also, for RQ2, it was concluded that most participants implemented blended learning using either the face-to-face or flipped classroom models. Teachers' perceptions of blended learning impact their implementation. Those participants who perceive blended learning as an essential teaching and learning tool implemented blended learning daily in their classroom instruction.

For RQ2, it was concluded that Internet access and teacher technology competency were the main challenges participants faced when implementing blended learning. Also, support from the school district and colleagues, availability of resources during the one-to-one initiative, and PD were factors that enabled participants to implement blended learning successfully.

There were a few discrepant cases found in the collected data. Some teachers perceived blended learning tools as a distraction for some students. Also, there were discrepancies in terms of how some teachers implemented blended learning; some only used it for homework assignments, as they preferred face-to-face instruction. I concluded that teachers' perceptions of blended learning tools influences how they implement blended learning and how often they implement blended learning in their classroom instruction.

Results

Results were organized by research question and themes and subthemes derived from data analysis (see Table 1). Participants were asked several questions to explore their perceptions regarding PEU and usefulness of blended learning, how they implement it, and challenges they have with implementation. Numerical codes were used to ensure participants' identities remained anonymous.

Table 1. Research Questions, Themes, and Subthemes

ResearchQuestions	Themes	Subthemes
RQ1: What are core content teachers' perceptions of the ease and usefulness of blended learning?	Ease of navigation and user-friendliness	
	Providing teacher/student feedback	
	Promotes student independence/autonomy	
	Student interest and engagement	
	Enhance/extend learning	
RQ2: How do core content teachers implement blended learning in their classrooms?	Individualized/Differentiated instruction Factors enabling successful blended learning implementation	*7a) Support* *7b) Professionaldevelopment/training* *7c) One-to-oneinitiative*
	Blended learning	
RQ3: Whatareteachers' perceptionsofchallengesrelatedtoimplementingblendedlearning?	Flipped classroom	
	. Face-to-face model	
	. Teachers' perceptions and blended learning	
	. Lack of resources	
	. Teacher technology competence	

RQ1

Ease of *Navigation and User-Friendliness*

When asked about the perceived ease of use of blended learning, several participants shared that blended learning was easy to use based on the technology tools. Participants have access to a wide variety of blended learning technology tools such as Chromebooks, online learning software, or learning management systems, such as Edgenuity, Google classroom, and a myriad of other online learning tools. However, when considering ease of use, participants suggested that Google classroom was by far the easiest to use due to the ease of navigation and user-friendliness.

According to P2, "blended learning is easy to implement if you can easily navigate through the technology, and it is user-friendly and manageable for students." P3 stated that blended learning is easy to implement "when the online tools are user-friendly and adaptable to any device." P5, P9, and P12 also shared that blended learning is easy to use if the blended learning tool is user-friendly, easy to navigate, and provides clear instructions.

Providing Teacher/Student Feedback

When asked about the usefulness of blended learning in their classroom instruction, teachers expressed that blended learning provided feedback on students' prior knowledge of subject content. For example, P1 stated that "blended learning tools are useful in gaining students' prior knowledge about the topic, which helps me plan instruction." Participants also indicated that blended learning tools help give them feedback on student learning. As stated by P2 and P3, "blended learning is useful as it helps teachers get feedback on student learning" using online assessment tools such as Kahoot or Quizziz.

Blended learning is also useful in allowing teachers to provide students with feedback on their progress or learning. According to P5, P6, P7, and P11, teachers can give students quick feedback when implementing blended learning. For example, P11 stated that "I can see in real-time what they are doing and be able to provide immediate feedback or remediation as needed."

Promoting Student Independence/Autonomy

Blended learning is also useful in providing student independence and autonomy. For example, students can engage in learning and complete course readings and assignments at their pace and time. According to P8, "blended learning is useful when the technology tools allow students to work at their own pace. Also, using the learning management system, Google classroom, students can engage in independent learning. For example, P8 stated, "I assign students individualized assignments, which they can complete independently after engaging with video lessons posted in Google Classroom." Also, as stated by P9, "blended learning allows the students to have access to information before coming to class so that they can engage with the content before a lecture." P10 also shared that "by using Google Classroom daily with a prepared agenda, students have access to lesson content and they have independent time when they may work on the assignments online."

Student Interest and Engagement

Blended learning is useful in developing student interest and promoting student engagement. According to P8, "blended learning keeps students engaged, and students find content more interesting." P9 also stated, "I think it allows us to have deeper student engagement in terms of discussion. So, I find it very useful." P5 expressed that "using blended learning technology tools, I can garner student interest and engage them in learning, regardless of how they learn or their developmental level." Further, P12 also shared that "blended learning keeps students engaged, and I can stimulate learning."

Enhanced/Extended Learning

Blended learning is useful in enhancing and extending student learning. According to P2 and P4, "blended learning extends student learning by helping them develop 21st-century skills and connect them to real-world experiences." For example, P4 shared that "students develop creativity, collaboration, and technology skills as they engage in learning and discussions using the various technology tools."

Also, P5 proposed that blended learning "helps teachers expand students' learning and takes them outside of the classroom, without having to leave the classroom." According to P5, "Using videos students can see visual representations of stories and places they read about since they cannot travel to these places." P9 also suggested that "blended learning is a powerful tool for increasing rigor and extending student learning."

Individualized/Differentiated Instruction

Participants also perceived blended learning as an effective tool for providing students with individualized or differentiated instruction. P1 stated that 'blended learning allows me to assign reading materials and individualized assignments for students to complete at their own pace." Also, P5 and P7 shared that using blended learning can meet the learning needs of all students. For example, P5 stated, "I find that not all my students are reading at the same level. Therefore, I can differentiate instruction by modifying and assigning students articles that meet their reading level.

So, they are exposed to the same content, but some articles may have simpler wording." P7 also shared, "my students can work at their pace to complete assignments. What I do is assign the work in Google classroom, and students can move from one assignment to the next once they master that concept." P7 continued to share that "if I find that a student is struggling, then I can differentiate or remediate by assigning a lower-level assignment or provide further instruction or explanation."

Factors Enabling Successful Blended Learning Implementation

Participants were asked about the factors that enabled them to implement blended learning successfully. Participant's responses were categorized by the three sub-themes, support, professional development, and one-to-one initiative. Each sub-theme is discussed in this section.

Support

Participants described the support as assistance received from the school District and their colleagues. P1 stated, I have full support from my district in that they provide the resources I need to implement blended learning." P4 shared that "support is the biggest thing that has helped me successfully implement blended learning. I have the support I need from the district and my colleagues in terms of helping me troubleshoot problems that arise with technology." Also, P6 stated, "I think support from the district, support from my fellow teachers, and support from parents and students has helped me successfully implement blended learning." P8 believes that "success with implementing blended learning comes from having support from the school district. I have what I need, and I can always ask for what I need and get it. That is the best support ever." P9 shared that "support from peers has helped me implement blended learning. Also, P10 stated that "support from other staff members when I need help with a technology is a plus for me as I am not that competent and their support has helped me implement blended learning."

Professional Development/Training

The school district and the school provide technology training for all teachers in weekly personal development sessions. Some participants believe that personal development in technology integration has enabled them to implement blended learning successfully. According to P4, "professional development has also helped with learning these new technologies to implement blended learning in my classroom instruction." P8 shared that "the district-wide technology training and weekly professional developments have helped me with blended learning. Though these weekly professional developments are optional, I attend them to develop my competence." P9 also indicated that "the professional development geared towards technology has been effective in helping me implement blended learning." However, P7 and P9 shared that the technology training is helpful but not substantial. According to P7, "you go to the training, and they present so many apps when you leave you are either still lost or not sure which one even to try."

One-To-One Initiative

Some participants suggested that the Districts' one-to-one technology initiative, where each school provides each teacher and student with Chromebooks, has enabled them to implement blended learning successfully. P1 shared that "because we are one-to-one with technology, teachers and students have the technology resources like the Chromebook to use in and out of class. The district also provides MiFi for students who do not have the internet at home. I believe these things allow me to implement blended learning successfully." According to P5, "a big plus is that students are issued Chromebooks, and MiFis are given to some students to alleviate internet problems." P11 stated "it is wonderful that all students have Chromebooks. That is a big plus; the district provides the technology so I can successfully implement blended learning." P12 also shared that "thanks to the district's one-to-one initiative, all students are provided with adequate resources. Each child has a Chromebook and internet access at school."

RQ2

Blended Learning

All participants were asked to define blended learning. P1 and P9 defined blended learning as "the use of asynchronous as well as synchronous teaching and learning." P3 and P4 responded by saying that blended learning is a combination of synchronous and asynchronous assignments at the same time. P5 stated that "my definition of blended learning is being able to use manipulatives here in the classroom, as well as digital technology to enhance the learning process for the students." According to P5, manipulative refers to instructional materials, such as vocabulary cards, word dice, or textbooks.

Also, P6 responded by saying, "I would define blended learning as using the internet, as well as in-person learning.in other words, using in-person and using technology to enhance or to teach."

According to P7, "blended learning is a combination of your traditional and that of your technology put together." P8 described blended learning by stating that it allows the students to engage in learning, part of which is conducted "face to face, and the other part of it, happens virtually online." P10 defined blended learning as "a combination of face-to-face, instruction, with the teacher at a school, mixed with some facilitated learning using online tools and resources." Also, P11 stated that blended learning is "learning blended between face-to-face and internet or technology supported." P12 defines blended learning as "incorporating the different technological tools into your traditional teaching and learning."

Flipped Classroom

Participants were asked to describe how they implement blended learning in their classroom instruction. Based on the responses, some participants implement blended learning using the flipped classroom model. The flipped classroom model allows teachers to assign students lesson content that they can interact with at their pace, using technology, then engage students in interactive activities in the classroom. For example, P1 stated, "I give mapping activities and a video lesson that they can do at their own pace, then in the face-to-face environment I reinforce their learning with short lectures and activities." According to P4, "everything that I do is uploaded into Google Classroom so that students can access video lessons, assignments, and assessments." Also, P10 shared that "by using Google Classroom daily with a prepared agenda, students have access to lesson content and they have independent time when they may work on the assignments online."

The flipped classroom model also allows teachers to provide students with remediation or reinforcement activities. For example, P8 stated, "I assign individualized assignments, provide access to content with videos, provide clarifications and extension activities in the teacher-led portion of instruction." P9 also responded saying, "I use the flipped classroom method. So, I assign students quick pieces of literature. They may have various activities to do with it, and the activities are to be completed before they get to class. In class, I can directly either place them in groups or have them complete some type of extension activity, and then we can move to assessments." Further, P4 stated "students work at their pace online, but I use the face-to-face time to clarify misconceptions, remediation, or to answer student questions."

Face-to-FaceModel

Most of the participants implemented blended learning using the face-to-face model. The face-to-face model entails instruction that is done in the classroom using both traditional teaching strategies and technology. P2 responded saying, "I use technology to introduce my lesson, then I give a face-to-face lecture using google slides that contain pictures and videos, then I assign independent assignments online." P3 also shared, "I do a lecture, maybe like 10-15 minutes, and then I might have student either work independently on online assignments like USA test prep or an assignment in google classroom." P5 stated, "I give short lectures using PowerPoint presentations embedded with pictures and videos, then assign individualized assignments in the form of Webquest or online assessments." P6 shared, "I use technology for homework and assessment but deliver my instruction using traditional face-to-face methods." Also, P7 shared that "after a lecture, I use maybe 20-25 minutes for students to use technology and work online on some type of practice." P11 stated, "I go through the lesson and the examples face-to-face, then I give independent practice using technology with websites like demos."

Teacher Perceptions and Blended Learning

Participants were asked to share their perceptions of blended learning based on their experience with implementation. Most participants perceived blended learning as beneficial in the areas of student engagement and learning. However, some shared that blended learning can be distracting for some students. Nevertheless, P1, P2, P3, P4, P5, P8, P10, P11, P12 indicated that they implement blended learning "every day" while P6, P7, and P9 stated they implement blended learning approximately two or three times per week.

Mathematics Teachers' Perceptions

Participants who taught mathematics, P7 and P11, shared that blended learning is a school requirement. They implement blended learning daily.

Both P7 and P11 stated that blended learning is useful for "giving students quickly assessing students understanding" of the lesson content and allows them to "give immediate feedback on student's learning." However, according to P7, "technology cannot replace the teacher so teachers must use blended learning to supplement their teaching by using technology tools to present concepts in a different way to develop the brain of the child." P7 continued to share "when I do use blended learning, I only use the technology for homework, nothing else." Further, P11 share that " implementing blended learning has been the hardest part of my job, and I have been teaching over 40 years. I have a lot more to learn to be successful with blended learning implementation."

English Language Arts Teachers' Perceptions

Participants shared that using blended learning technology tools allows them to show students pictures and videos of places and events they read about in books. Therefore, P5 proposed that blended learning "helps teachers expand students' learning and takes them outside of the classroom, without having to leave the classroom." Also, P9 suggested that "blended learning is a powerful tool for increasing rigor and extending student learning." Participants also shared that blended learning presents students with other creative ways of presenting their writing pieces. For example, P5 stated that "my students can be creative in how they present their writing as they can use storyboards, add illustrations, and so on. These help them gain 21st-century skills so that they can compete with other students globally when they go off to college or the workforce." P4 also indicated that blended learning is "effective in providing the skills they need in this 21st century." However, P4 also stated that "the use of technology is a distraction for some students. Not all students can focus on the learning as they find other things online to distract themselves."

Science Teachers' Perceptions

Participants shared that blended learning is beneficial for both teachers and students. For example, P2 stated that "blended learning helps students with independent practice using technology, provides ease of relaying information to students, and helps students stay on task. P8 also stated, "I feel like blended learning is a good thing, but I also think that it is working for some students, and for others, it is not." P12 also shared that "blended learning is good; it has been working for me. Blended learning keeps students engaged, and I can stimulate learning for all students regardless of how they learn or their developmental level." Also, P10 shared that "blended learning can be effective, but there are challenges that make it frustrating to implement."

Social Studies/US History Teachers' Perceptions

Participants suggested that blended learning helps with student engagement and improving student learning. For example, P1 shared that "blended learning is a requirement for student learning as they begin to tune you out after lecturing for too long. So, using technology helps with student engagement." P6 also shared, "two years ago, I found that the Chromebooks were more of a distraction to students than an effective learning tool, but right now it is the only means of engaging our students in the teaching and learning process." Also, P3 stated, "I believe it helps with student learning."

RQ3

Lack of Resources

All participants shared that lack of resources was a challenge preventing them from implementing blended learning, while a few also reported technology competency challenges. When describing lack of resources, most participants referred to internet access and Chromebooks. According to P1, "many kids do not have access to the Internet at home.

So, it poses a problem when I assign homework online." P2 stated, "for me, the major factors are choice of technology, in that some students refuse the school-issued Chromebooks, and Internet access as some students do not have the internet at home." P3 shared that "access to technology devices is a big issue. Some parents opt out of getting Chromebooks for students. Also, students damage the devices, and the school is unable to repair them fast enough." P3 also stated that "another issue is the internet. The students live in places that do not allow them Internet access even though the school issues them a MiFi," which is a wireless router for providing wireless Internet.

Other participants also shared internet connectivity and Chromebook issues as factors that impact blended learning in their classroom instruction. For example, P4 stated, "first, lack of connectivity regarding the internet is a problem. Second, students not having their Chromebook as sometimes they leave them at home." P5 also said, "website failures, Chromebook issues, slow internet, and sometimes no internet access are the most pressing factors I can think of that has prevented me from implementing blended learning."

P6 suggested that "lack of or poor internet access and lack of student participation" are factors that prevent successful blended learning implementation. P7 also shared that "internet access is a big problem for students." P8 stated, "the internet service is not always reliable for some students, and it is difficult to get some students to participate."

Also, P9 expressed, "I can think of several factors, but the main ones are technology problems as the devices are old and some do not work. Also, some students do not have internet access when they leave school." P10 also indicated that "inoperable devices or device limitations and limited or no internet access are barriers or challenges to blended learning." Also, P11 stated that "poor internet access has been a major problem when implementing blended learning." P12 also shared that "sometimes we have issues regarding the technology or the software as the district blocks some websites. We also have internet issues. Also, students do not have the appropriate device or the device is not functioning."

Teacher Technology Competence

Some participants cited technology competence as a factor that impacts blended learning implementation in their classroom instruction. P4 stated, "for me, maybe not having a full understanding of how to use a particular app has hindered me from using some online tools for blended learning." P4 continued to share that "the school offers training during our planning periods, but due to my workload, I cannot attend most of them." P5 also said, "I think poor preparation on my part is an issue. I hear about a technology tool they attempt to implement without being fully prepared or competent enough to use it effectively. I might need to attend those training sessions more often." According to P7, "lack of knowledge and skills for using a technology is a big issue." P8 stated that a challenge with blended learning implementation is "adjusting to the new way of doing the teaching and learning using technology. I have to keep learning new technologies so that I can keep up."

DISCUSSIONS

The findings suggest that participants have access to a wide variety of online tools to facilitate blended learning implementation. Participants indicated that these blended learning tools are easy to use. They are user-friendly, easy to navigate, manageable for all students, and adaptable to all devices, especially the learning management system, Google classroom. The findings confirmed that teachers consider blended learning useful in providing feedback on student learning, giving students quick feedback, remediation, enrichment, and engaging students in the learning process. The findings suggest that some participants implement blended learning using either the flipped classroom model or the face-to-face driver model. For example, using the flipped classroom model, participants provide course content online for students to utilize at their pace while providing students with clarifications, assessment, and extension activities during the face-to-face instructional sessions. Participants also deliver most of the lesson content using lectures, then assign independent assignments using online technology tools.

The findings from this study confirmed that teachers' perceptions impact blended learning implementation (Archambault et al., 2016). According to the findings, teachers' perception of blended learning impacts how often they implement blended learning. For example, participants perceive blended learning as an essential teaching and learning tool. Therefore, all participants implement blended learning in the classroom instruction, with the majority implementing it every day. However, the teachers who see technology tools as a distractor for students only implemented blended learning two to three days a week.

Findings suggest that blended learning promotes personalized learning as participants can allow students to work independently on remediation or enrichment activities using technology. Additionally, the findings confirmed that teacher technology competence and lack of resources (Internet access and technology tools) are barriers to blended learning implementation (Rasmitadila et al., 2020). However, some factors enable successful blended learning. These factors include support from the school district and colleagues, the one-to-one initiative where the school provides teachers and students with Chromebooks, and ongoing professional development, which provides teachers with technology training.

In conclusion, teachers' perception of the ease of use and usefulness impacts their implementation of blended learning in their daily instruction. Most teachers perceive blended learning technology as easy to use and useful. Therefore, most teachers are implementing blended learning. The most popular method of implementation among participants is the flipped classroom of the face-to-face model. However, some teachers face challenges when implementing blended learning.

For example, some students do not have access to the internet once they leave school. Also, some teachers do not possess the skills and competencies needed to implement blended learning successfully. Nevertheless, teachers receive support from the school district and peers. They have the district's technology tools, and they receive technology training, enabling them to implement blended learning successfully. Teachers who can successfully implement blended learning in their classroom instructions can maximize the benefits.

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