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A Single Case Study of Blended Learning in a Colorado Middle School

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A Single Case Study of Blended Learning in a Colorado Middle School

David William Baker

Concordia University–Portland

College of Education

Dissertation submitted to the Faculty of the College of Education

in partial fulfillment of the requirements for the degree of

Doctor of Education in

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Chris Jenkins, Ph.D., Faculty Chair Dissertation Committee

John Yoder, Ph.D., Content Specialist

Chad Becker, Ph.D., Content Reader

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Abstract

The purpose of this single case study was to investigate the perceptions of teachers and administrators on the impact of a three-station rotation model of blended learning in a Colorado middle school. The study includes any benefits and drawbacks realized through "Hazleton" Middle School's instructional shift to blended learning, specifically whether there is evidence that teachers and administrators perceive an improvement with students' ability to grasp academic concepts, develop self-advocacy and self-efficacy skills, increase engagement, and reduce and prioritize teacher preparation time. The study was conducted using a focus group interview with three school administrators, interviews with 16 teachers, and observations of twelve of those teachers' classrooms at a middle school in Colorado. The self-efficacy theory framed this study as it connects student learning with providing opportunities for students to believe in themselves. The collected data was compiled, triangulated, and analyzed. Academic conceptual grasp, self-advocacy, self-efficacy, engagement, teacher preparation time, and device appropriation were the six themes that emerged during the data analysis. While some participants perceptions differed, a positive trend was seen from the first four. Most agreed teacher preparation time has increased, but expect it to decrease with experience in managing the data and learning objectives to create lesson plans. An unexpected but important finding was the importance of device appropriation for implementation of a blended learning model using devices in classrooms is having a plan for distribution then following up with teachers and the leadership team to determine if any adjustments are needed.

Keywords: blended learning, three-station rotation, instructional model, self-efficacy, self-advocacy, self-efficacy theory

Dedication

Through everything, God is good. This has been so true with my life and were it not for Him the mercy and grace He offers us, I would not have survived the multiple obstacles and trials I have faced. Surely, I would not have been capable of contemplating all the work to reach the point of completion with this dissertation and the doctoral program. With that, I first dedicate this dissertation to God. He also was instrumental when I met my amazing wife, Mary, on Valentine's Day of 1999.

Mary and our two children, Matthew and Meredith, have been instrumental in their support during my studies, so I also dedicate this effort to them. We did not miss much time together, but on days where I needed time to study and write, you all were understanding and accommodating. I am so very thankful for the support and encouragement each of you provided along the way. I especially thank Mary for taking over the primary driving responsibility for our trips to California at the beginning of my studies and Florida in my final classes and as I began to draft this dissertation. By assuming the majority of the driving, you allowed me to read, write, and process. Being together also provided me the unique opportunity to discuss ideas and fascinating facts with my family whom I love with all my heart. This made the process even more rewarding because I was able to share the experience with those whom I love the most. Another blessing is that Matthew and Meredith were able to see that anything is possible with God's help, our own determination, and support from our loved ones.

Acknowledgements

The support Mary, Matthew, and Meredith provided was invaluable through my journey to this stage of my doctoral studies. I cannot thank each of you enough for this and I hope my work will serve as encouragement so none of you ever doubt your ability to find success in anything you put your mind to accomplishing.

I also thank Dr. Chris Jenkins for your guidance and supporting words as you led me toward this point. Your common sense and straightforward approach to situations is strikingly similar to how I operate, which was so refreshing and helpful. Instead of seeking ways for me to do more work, you directed me to resources that I specifically needed. This focused learning helped me better maintain my focus, which aided me in constructing a far better dissertation than would have been possible if I had followed a "canned" curriculum. You also proved instantly proficient in focusing my ideas from concept into reality.

This dissertation would not have come together as nicely without the guidance and recommendations of my other dissertation members, Dr. John Yoder and Dr. Chad Becker. While Dr. Jenkins had the benefit of conversations where he was able to ask for clarification, the focused questions posed in drafts demonstrated to me that they spent the time to deeply consider and frame the confusions that arose. I know these efforts added a significant amount of time to the process, yet they always returned their comments more quickly than expected with precision details and pointed advice for improving this product on structural, word smith, and conceptual levels.

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Chapter 1: Introduction

Introduction to the Problem

From home security to a variety of smart appliances, technology is quickly transforming how we live. In classrooms, personal computing devices offer students more than just access to a wealth of knowledge at their fingertips. Along with providing students opportunities to advocate for their own learning needs and interests, there are also many software options educators can employ to support their instruction within the framework of their standards and learning objectives. It is time to determine what the impact would be to the overall learning process if a school embarked upon an instructional overhaul that embraced the many technological advances available to schools today.

As a high school teacher, I taught "George," a junior in my remedial English Language Arts (ELA) class where my task was to help students pass the reading and writing portion of the California High School Exit Exam, which had been one of the qualifying standards at the time for high school graduation. The students enrolled in my class had attempted and failed the ELA exam at least once, and many like George, had never realized much success in education. There was a mutual fear amongst the students that they would never pass the test, meaning they would also fail to qualify for graduation. My challenge was not only to impart upon them basic test preparation for the reading and writing portions, but also self-efficacy skills so they could begin to believe in their abilities to grasp the English Language Arts academic content and test taking skills.

In 2006, my school purchased a workbook/study guide for the classroom with an online component. Without knowing what to call this instructional approach, this was my first foray into blended learning (BL), which The International Association for K–12 Online Learning

(*i*NACOL) (2018) website defines as a linking of lecture and computer based instructional models where students have ownership of their learning through various activities and lessons the teacher has offered.

After several months, my students took a sample assessment and the students' results were stunning as they were making significant achievement gains, but the most amazing result was that George achieved a perfect score. After passing out the results to my students, George raised his hand to alert me to what he thought was a mistake. He told me, "I always score at the bottom." When I told him it was no mistake, he was baffled and asked how it could be correct. I replied that he and his peers had the potential to find success in any class and that success came down to them believing in themselves individually and as a group. This validated the belief I have held that people can improve themselves personally and academically as George was able to do.

I have seen students and staff members find similar shifts in their personal and academic growth as I have experienced during more than 20 years in education as a school bus driver, teacher, and administrator. Claro, Paunesku, and Dweck (2016) found that people can effect personal change in their lives and found those who hold more of a growth mindset consistently outperform those who do not at every socioeconomic level. For me, this begins with a deep conviction of the importance that people believe in themselves and their abilities. Work that is focused, structured, and takes into account the students' personal and academic needs are vital for students to realize growth. Providing students an opportunity to self-direct and have input into their education will result in them taking ownership for their learning. Crow and Small (2011) explained that when students have a stake in their learning, they realize an increase in the development of intrinsic motivation.

Incorporating technology is an avenue for establishing another impetus for instructional engagement as most students will assume greater ownership of their learning (Francis, 2012). To determine if this is the perception of the staff and administrative team at a middle school in Colorado, this qualitative, single case study will examine the three-station rotation model of blended learning that has been in full implementation since the beginning of the 2018–2019 school year in some classrooms. The study will also collect data from teacher interviews, an administrator focus group, and classroom observations regarding the perceptions of their students' ability to grasp academic concepts, develop self-advocacy and self-efficacy skills, and increase engagement. They will also share their perceptions on the effect the shift has had on the overall time taken and teachers' ability to prioritize their preparation time after implementation of a BL instructional model.

The ability for students to have a voice in their learning is a requirement within the teacher evaluative rubric used for Colorado's teachers. For a teacher to attain even the second highest rating, students must be able to advocate for themselves academically. The Colorado Department of Education's (CDE) *2017–2018 Rubric for Evaluating Colorado Teachers* (2017) stresses the importance of students regularly being engaged in advocating for their own learning. One such area CDE requires is for students to advocate for themselves by expressing what they need for increased academic achievement, which will occur with an increase in grasp of academic concepts. Doing so requires students to understand and share with their teachers their academic needs and methods for learning. Students expressing what they need to extend their learning demonstrates their ability to take ownership of their academic learning while gaining experience in self-advocacy, which they can then apply to other areas of their lives.

The rubric also stresses that it is not enough that students simply comprehend the objectives about a topic, but that they also need to understand their unique learning styles so they can begin to find activities and instructional items they feel will best support their grasp of academic content and overall growth (CDE, 2017). Such skills will help students to competently gauge their own progress toward achieving the learning objectives. These students should then be able to share the objectives they hope to learn within specific units of study with their teachers. A BL focus that includes a personalized learning segment, as station rotations do, will aide students in developing competence in the areas covered in the CDE teacher evaluative rubric.

Improved academic engagement with technology can also highlight skill gaps students may have through using various programs and platforms. Leading up to the Colorado state assessment several years ago, the ELA teachers at my middle school rotated through the computer labs where students typed their revised and edited research reports. While students could maneuver the cursor around to make changes, they were very slow and unfamiliar with the QWERTY keyboard layout. Since the state assessments require students to write short constructed responses based on a given prompt using direct quotations, the computer-based format allows students to copy and paste from the selections into their answer section. When teachers asked students to use the copy, cut, and paste features in Word, the majority had never heard of this textual manipulation.

Children of all ages have proven capable of using a variety of mobile applications for social media, gaming, and messaging. As part of a Pew Research Study, Lenhart (2015) found the number of teenagers who access websites and Smartphone applications is close to 100%. Of those who do, a quarter stated they are online nearly all the time. Over 75% of teenagers are

social media users, which increased to over 80% for older teenagers and over 70% of them were regular users of Facebook. Teachers were surprised to find students lacked competence in basic word processing skills and in commonly used programs like Word, Excel, and PowerPoint because students had demonstrated competence with web browsing and the use of device-based applications, not to mention playing online and application-based video games. Tang and Chaw (2016) explained that being able to use a variety of technologies does not mean those same people are able to navigate through specific programs and digital tools.

Students need to become more familiar with basic word processing skills and general computer use, which should assist them in increasing their performance on computer-based assessments such as state, district benchmark, and most formative assessments. These skills are also vital to success in high school and college. As more and more businesses introduce additional technology in their workplaces, being able to navigate a variety of software and web-based programs is relevant learning even for students who seek career pathways in lieu of higher education. A BL model offers students opportunities to learn the 21st Century skills that will help them through education, work, and their personal lives.

Blanchard, Leprevost, Tolin, and Gutierrez (2016) noted that the integration of technology paired with professional development for teachers resulted in increased achievement scores. One reason technology makes such a difference is the available software continually differentiates lessons based on each student's progress through the assignments and assessments. Kazakoff, Macaruso, and Hook (2018) recognized how extraordinarily challenging it would be for teachers to make individualized student centric adjustments because of the sheer number of students needing specialized and focused attention regarding their learning needs. These researchers noted the benefits of the software used because these programs gave students

"immediate corrective feedback and explicit instruction when students [would] struggle with an online activity" (p. 433). This technological advantage delivers seemingly one to one tutorial instruction simultaneously while students are engaged in the assignment. Longo (2016) explained that BL prepares students for their future education while also providing an opportunity for more individual instruction.

Background, Context, History, and Conceptual Framework for the Problem

Background. Recognizing that an instructional and pedagogical shift needs to happen is a major first step, but the next step is to determine what type of changes are needed within a school to best impact the identified deficiencies. An option is to consider incorporating additional technologies into the instructional programs—one of which is blended learning. Not to be confused with blending various learning styles into an instructional model through differentiation, this model is accomplished through students regularly using computers, tablets, or cell phones to more deeply interact with the lessons. Station rotation, flexible classroom arrangement, flipped classroom, full online instruction, and individualized instruction are examples of BL instructional models. They differ by where instruction takes place and the number of devices in use. As Kazakoff et al. (2018) explained, the greatest benefit of one of these models that "blended learning can take various forms, thus allowing users to adapt a program that best fits their pedagogical goals and physical setting" (p. 432).

Context. Station rotation is not a new concept; however, integrating technology as one of the stations transforms the instruction into 21st Century learning. As a BL model, students learning in station rotations shift at semi-specific times to engage in different efforts that can include a technology station, a personalized learning station where students can work individually, in groups on projects or extension activities, and at a teacher station for extension

lecture, remediation lecture, or conferences. This model best serves classrooms that do not have one device per student and where the teacher wants more control over the pace of instruction. A second rotational model is called flexible classroom arrangement, or flex instruction, and is very similar to station rotation except that students have more control over shifting from technology to other activities. In this design, most of the work is accomplished using devices. The teacher, who is always present, can shift students off the devices onto more traditional instructional tasks when needed. The teacher normally plans these shifts based on each student's instructional needs (Christensen, Horn, & Staker, 2013).

Another model of BL is individualized instruction and is also referred to as 1:1 where each student has a device and instruction is mostly self-paced. This model will only work if each student has access to a device—which is a limiting factor. Varier et al. (2017) recognized successes in instructional models where each student had a device. However, they also found this was a financial challenge to implement because of the cost involved; therefore, many schools purchased tablets such as iPads for their students. As the students aged, schools recognized these devices they purchased did not provide the level of functionality for students' class work.

In the flipped classroom model, students complete all instructional work at home and do group or individual extension activities in the classroom. The drawback of the technologically based flipped instruction model is that it will only work where students have devices and Internet access at home or can access devices elsewhere such as a library or friend's house. This model requires students to complete all or most of their work before the next class, which creates a significant challenge because of the level of diligence required to find success. This is especially true for middle school aged students. An ELA teacher at my school attempted a flipped classroom model with the plan that students would complete work at home then be prepared for

class discussions, question time, and project-based learning. The students appeared to be very excited and accepting of this instructional change, but problems quickly arose. The teacher shifted to the three-station rotation model three weeks later after realizing not enough students had access to Internet and devices, or the self-discipline to complete this work at home. This teacher was not able to institute any structure, as a science teacher at my school who has been using BL for several years has done to help keep students focused and on task.

History. Teachers, and I was among them, have long tried to deliver instruction that is truly individualized for each student's unique needs. The primary challenge is being able to assess each student's grasp of the material at a moment's notice in relation to what that student can produce at a proficient level with each grade level standard, sub-standard, and academic skill students are required to master. Blended learning software does just that. The difficulty for teachers increases when considering that many secondary teachers have more than 150 students and many of those students are multiple academic grade levels below their actual grade level. BL software programs can not only provide immediate results and exact feedback to each student, but it can do so simultaneously. This level of thoroughness and immediacy is impossible for a person to replicate.

The 2017–2018 school year was the first full year of implementation for Hazleton Middle School, a pseudonym for the school that is the focus of this study. While some teachers had experimented with various models of BL in the past at Hazleton and different schools, the primary focus was to ensure each of the ELA and mathematics teachers at this sixth through eighth grade middle school in Colorado would have one device for every three students. Hazleton administrator "Chase" (a pseudonym) described how the Hazleton BL Committee of teachers introduced their peers to BL during a professional development day in October 2016.

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A month later teacher grade level teams reviewed the different BL models and discussed best and worst possible outcomes. The BL Committee surveyed staff in February 2017, who were in favor of the adoption. The staff and administration agreed that teachers who implemented BL would use either station rotation or flex model three times a week in ELA and mathematics and at least once a week in science and social studies. In February 2017, during another staff professional development day, teachers brought sample lesson plans to determine how to shift it into a BL plan (personal communication, January 25, 2018).

BL was officially launched at Hazleton Middle School the following week in a select few classrooms. Those teachers were able to integrate BL into their instructional model and they served as pilots for their peers and the staff who would make the BL transition the following year. Many of the other teachers who have transformed their instructional model to include blended learning since then serve as models and mentors for each other. All ELA and mathematics teachers implemented BL station rotations in their classrooms as has a social studies teacher and several science teachers from the start of the 2017–2018 school year.

To better understand the process behind the instructional shift to a three-station rotation model of blended learning at Hazleton and to provide preparatory background information, several interviews were conducted with members of the administrative team. Later, a focus group discussion was held with all three administrators at Hazleton Middle School to gauge each group's understanding and feelings about the benefits associated with the instructional shift to BL. This study then employed teacher interviews in an individual setting. After those were complete, three days of classroom observations served to determine if what the teachers and administrators claimed in the interviews and focus group discussion regarding the impact their shift to a three-station BL instructional model had at Hazleton was apparent during instruction.

The numerous teams and committees at Hazleton Middle School have afforded their teachers the ability to participate in what Moolenaar et al (2012) termed highly "dense networks" (p. 252), which should help them continually improve and refine the work they are doing for their students. Since the planning period forward, the grade level teams have included a BL discussion time during their team meetings to discuss successes, questions, and issues found.

Based on the preparatory interviews, it was evident that staff experienced in BL and those on the committee had been working on a method for peer to peer observation to help those who remain less than confident about embarking on the change and those who have begun to find ways to improve their instructional delivery through BL station rotation. Comas-Quinn's (2011) research in online instruction found the importance of teachers recognizing how their teaching styles and personalities connect within the change process and to have them involved in the professional development offerings. One of their strongest recommendations was finding a way for teachers new to BL to observe their peers teaching BL to understand how tointegrate technology into their own classrooms.

The Hazleton administrative team has been providing continued guidance and support through the process. They have also been encouraging teachers to support their peers to alleviate fears and give staff and students the support they need when issues arise. Most of the other teachers, even veteran teachers, are truly excited about the shift, but are concerned about the classroom management aspect with the change.

Since the initial BL launch, both the original teachers and those who began the transition since the start of the 2017–2018 school year have welcomed their teacher peers from across the district to observe their stations and they have continued to work toward continual improvement of their BL models. Throughout each phase, teacher leaders have been the guiding force while

the administration team has provided the support all teachers needed. While it is evident

Hazleton staff at all levels welcomed leadership opportunities, it is equally clear that there is a

wealth of support from the district level administrators, board of education, and community

partners. In addition to the servant-teacher-leader supports, the Hazleton staff has maintained

their BL committee comprised of the administration team, chairs from each department,

counselors, the librarian, and students. They have also invited community members and parents

to join.

There is also a wealth of support both from the district and within the school.

Administrators, an instructional coach, and the district BL coach are available to answer teacher

questions or give support. Each teacher's planning period has a particular focus for the hour that

each group of teachers are together. There is another day dedicated to teachers meeting as a

grade level for peer BL support and observation. The school district allowed the assistant

principal and several teachers to attend two conferences in the 2017–2018 school year where

district personnel and staff from other schools involved in the BL shift also attended. This

provided a unique opportunity for professional development they could immediately plan for

implementation and support. The other staff members in attendance with more experience with

the shift were able to identify and discuss the various stumbling blocks and possible resolutions

for each in conjunction with the information presented.

Instructional materials are a key component of the BL framework. The ELA teachers at

Hazleton adopted the online instructional program Reading Plus and mathematics teachers

adopted Dreambox. Both offer extensive lessons at a variety of levels to assist students with their

learning gaps in fun and dynamic environments that are more like a video game than traditional

worksheets. Since those meetings, the district adopted new mathematics and ELA curricula each

with its own software offering that serves as the primary online instructional material for these classes. The biggest issue the Hazleton social studies and science teachers face is the lack of an Internet based BL software for their curricula. All the teachers who have begun the instructional transformation have found that teachers have their own approach and levels of technological incorporation into their instruction. Most of them have been willing to help their peer teachers who desire a similar BL experience for their students.

Besides personnel issues, the remaining significant roadblocks to successful implementation of BL at Hazleton Middle School will involve the hardware, software, and professional development needed to support the teachers. Representatives from the district Office of Information and Technology (OIT) made several visits to the school to ensure the building could support the additional devices. They found several issues including insufficient Wi-Fi hotspots that resulted in an inability to access or remain connected to the Wi-Fi once teachers began implementing BL in their first year. This raised concerns about the infrastructure's capacity to establish three-station rotations with the hundreds of additional devices that would be added to the hundreds of devices already on the school's network, which does not count the staff members, students, and visitors who access the school's publicly accessible Wi-Fi. To address these concerns, OIT increased the number of hotspot stations where devices connect wirelessly to the school's Internet. The workers also performed testing and maintenance on the school server. Faulty infrastructure, which would include inadequate Wi-Fi connection locations, too few electrical locations that support multiple devices charging at once, and a server not equipped for the load of up to 1,000 devices connecting at a time could result in frustration amongst teachers and students, which would reduce the effectiveness of the instructional transformation to blended learning.

The funds to purchase devices, infrastructure, and software came from a combination of donations and grants from several sources. Learning Accelerator is a non-profit company that provides assistance to various school districts across the nation to help roll out BL. They donated hundreds of thousands of dollars to the district. The eLearning Consortium of Colorado also donated funds to assist with professional development, devices, and software. A local group of retired teachers, called the Success Foundation donates money each year to schools to purchase devices. They have given thousands of dollars of awards to all district schools in the efforts to create and maintain BL based classrooms.

The leadership team at Hazleton Middle School had been planning for the 2017 transitionary period for full BL instruction for several years. The next phase were preservice meetings where the staff worked to understand the BL model each chose and where they determined their best course of action for implementation. A primary task at these meetings was to establish norms and instructional plans grounded on state standards and unit objectives, which they hoped would help ensure that their students will truly benefit from the work this new instructional change will require. It will also open the door for learning through continued professional development. Puteh, Kaliannan, and Alam (2015) explained that such on the job learning with peers frames the way personnel understand their responsibilities and processes.

While the average core instructional class size at Hazleton is 28.4, implementation of the three-station rotation provides teachers the ability to create three separate zones of students in their classrooms effectively lowering the "feel" of a class that is larger. This design allows teachers to devote time for reinforcement or extension of lessons while another group of students are working on an application of skills and a third are working on the devices. This reinforces the

tutorial model by devoting two thirds of the class period to a tutorial setting with either the teacher or software.

Conceptual framework. Because of the link between self-confidence and academic performance, the self-efficacy theory served as the conceptual framework for this study. As Olivier, Archambault, De Clercq, and Galand (2018) reported, through this theory as students' belief in their ability to perform academically increases, their ability to better grasp the academic concepts presented also improves. What can then follow is an increase in students' effectiveness in advocating for themselves because of the greater self-confidence they have and an overall improved grasp of what they are learning.

One issue many students have with content is an apprehension because of previously negative experiences. The devices within a blended learning model help with that engagement piece then it is the teacher's responsibility to construct a precise instructional plan to help students grasp and learn the content. Part of this plan should include activities that will enable each student to find successes with the content while guiding them to ask questions for clarity, connection to prior learning and other contents, and extension of the original learning targets to continue engagement of those students who finish lessons early.

Statement of the Problem

This study will investigate the problem of students struggling to grasp academic concepts and demonstrating low levels of self-efficacy and low self-advocacy. The 2015–2016 school year is the most current year of nationwide graduation data available, which the U.S. Department of Education (2018) reported was "84 percent" (p. 1), which is an increase of 5.8 percent from the national graduation report for the 2009–2010 school year. Looking specifically at Colorado for the same years, the rate for the 2015–2016 school year of 78.9 percent was a 6.5 percent increase

from graduation rates in the 2009–2010 school year (CDE, 2018). Despite these increases, more can still be done to modify the delivery of instruction and instructional materials to better engage and instruct more students to help the graduation rate increase closer to 100%. The task of teachers guiding every student to learn at grade level so each can find academic success and qualify to graduate from high school in four years may not be impossible, but it might be possible through technological interventions. In addition to the issue of many students performing academically below their actual grade level, many also have low self-efficacy and are unsure about how to advocate for their academic and personal needs. Another challenge facing educators is the lack of engagement many students have with their learning.

Many educators spend countless hours seeking lessons which will captivate and engage their students while ensuring the lessons will connect with the state standards and district priorities to help facilitate increases. As evidenced by the graduation rates, the time and stress of those educators who do make those sacrifices have not resulted in substantial improvements. There are other educators who would not, for a variety of reasons, spend this same amount of time in seeking and planning lessons. Johnson, Bolshakova, and Waldron (2016) described these and other challenges facing teachers and the academic obstacles students confront.

Teachers would greatly benefit from discovering ways to reduce and prioritize their preparation time and being able to better serve each of their students. There is a wealth of various instructional curricula, assessment tools, materials, and lessons available online and through publishers that can help teachers connect at students' specific academic needs, but educational stakeholders should also examine if different instructional approaches would help students increase their social skills. Studies have shown a possible solution to this problem is to transform

the instructional model away from the more traditional, lecture based instructional model towards one that is technologically based using a blended learning instructional model.

Students—especially those who struggle to grasp academic concepts or those who become easily bored with instruction that reviews concepts they already know—need more dynamic instructional opportunities to help them improve their academic achievement through increased engagement (Camahalan & Ruley, 2014; Kazu & Demirkol, 2014; Longo, 2016; Martin, 2013; Means, Toyama, Murphy, & Baki, 2013; Napier, Dekhane, & Smith, 2011). Engaging in project-based assignments will increase students' interest in the unit objectives and connection to their own prior learning (Kim, 2012). Students could also benefit academically and socially through the development of self-advocacy and self-efficacy skills (Brady, Lin, & Yore, 2014; Martin, 2013; Prior, Mazanov, Meacheam, Heaslip, & Hanson, 2016).

Purpose of the Study

The purpose of this single case study is to investigate the perceptions of teachers and administrators of the impact of a three-station rotation model of blended learning in a Colorado middle school. This study will first analyze whether the administrative team and teachers perceived any benefits and drawbacks realized through Hazleton Middle School's instructional shift to blended learning, specifically whether there is evidence that it improved students' ability to grasp academic concepts, provided opportunities for students to develop self-advocacy and self-efficacy skills and engagement, and reduced and prioritized teacher preparation time. The second phase will be to consider the themes that emerge from their perceptions with classroom observations of students learning in blended learning instructional environments. The goal is to understand whether the perceptions of the administrators who oversee the academic program at the school and the teachers who deliver the instruction can be observed in the classroom

environment. These observations will serve to verify the question Stake (1995) asked, "Do we have it right?" (p. 107) in explaining the importance of and how to accurately triangulate collected data to best ensure accuracy in reporting.

Research Questions

This study is guided by five research questions centered around the perceptions of benefits or drawbacks to students' ability to grasp academic concepts and increase levels of self-efficacy and self-advocacy. It will also seek to determine perceptions from teachers and administrators whether the amount of plan time teachers need to plan and prepare their lessons has been impacted after Hazleton Middle School transformed their instructional plan to include a three-station rotation model of blended learning.

RQ1. How do teachers and administrators perceive the impact of a three-station rotation model of blended learning on student ability to grasp academic concepts?

RQ2. How do teachers and administrators perceive the impact of a three-station rotation model of blended learning on student development of self-advocacy skills?

RQ3. How do teachers and administrators perceive the impact of a three-station rotation model of blended learning on student development of self-efficacy skills?

RQ4. How do teachers and administrators perceive the impact of a three-station rotation model of blended learning on student classroom engagement?

RQ5. How do teachers and administrators perceive the impact of a three-station rotation model of blended learning on teacher preparation time?

Rationale, Relevance, and Significance of the Study

The staff at Hazleton Middle School transformed their school's instructional plan to include blended learning in hopes that it would improve students' grasp of academic concepts.

Understanding how the Hazleton staff perceives the impacts of the instructional shift upon students' ability to grasp academic concepts is also the primary focus of this qualitative, single case study. Since the teachers interact with the connection of BL instruction and students daily, grasping an understanding of how they perceive this instructional shift is most important. Gaining insight from the Hazleton administration is also an important step in understanding how the process is functioning at Hazleton because they are in charge and can implement shifts to improve capacity and functionality of the school's daily operations. In addition, this study could present a case for whether the combination of technology and student choice could lead to perceptions of improvements in students' instructional engagement and skills with self-advocacy and self-efficacy.

With the financial and human capital expended in transforming an instructional program from a traditional lecture approach to a three-station blended learning model, there should be legitimate concerns that this could be another instructional pendulum swing without lasting and positive impacts upon the stakeholders. The results of this study are significant because as our world continues integrating technology into every aspect of our lives, it is imperative to quickly determine how best to design the 21st Century classroom, such as through an instructional transformation to the use of a technologically based blended learning model, that most effectively harnesses technological advances to support students and teachers.

Definition of Terms

Blended learning. Instructional methodology in which learning is conducted in some fashion "through online learning with some element of student control over time, place, path, and/or pace and at least in part at a supervised brick-and-mortar location away from home" (Christensen, Horn, & Staker, 2013, p. 7).

Devices. Specific computing hardware systems "that were cost effective and represented the range of technology with potential for student use in an instructional setting including: Dell Laptop, iPad Mini, Windows Tablet, Nexus7, Google Chromebook, and Kindle Fire" (Varier et al., 2017, p. 791).

Flex. Under this BL model, "students move on an individually customized, fluid schedule among learning modalities, and the teacher of record is on-site" (Christensen, Horn, & Staker, 2013, p. 26) and includes instruction and/or activities not online.

Flipped classroom. This BL model "is one in which the rotation occurs between the school for face-to-face teacher-guided practice (or projects) and the home or other off-site location for online content and instruction" (Christensen, Horn, & Staker, 2013, p. 26).

Self-advocacy. This term encompasses "understanding one's rights and responsibilities; developing one's learner profile by assessing abilities and interests, strengths and weaknesses, learning styles and habits; [. . . recognizing] available options and opportunities; and connecting with advocates who can help accomplish what needs to be done" (Douglas, 2004, p. 224).

Station rotation. This BL model "is one in which students rotate within a contained classroom" (Christensen, Horn, & Staker, 2013, p. 26).

Assumptions, Delimitations, and Limitations

Assumptions. A significant assumption involving technology is the level of computer literacy that students and educators possess regardless of age. Tang and Chaw (2016) found that despite students being able to navigate various applications and technologies, many were unable to use instructional programs and devices at a proficient level. Instruction will be negatively impacted if too many members of the groups are not adept at using device applications or lack proficiency in basic word processing functions. As computer-based are replacing paper-based

high stakes assessments, it is becoming more instructionally relevant to ensure students are competent and comfortable with the various word processing tools and functions so a lack of proficiency with them does not interfere with students' demonstrating their levels of instructional proficiency.

Another assumption is the perceived willingness of teachers to make the dramatic shifts necessary to shift their instructional programs from a traditional to BL model. Comas-Quinn (2014) stressed that the need for teachers to develop specific skills in technologically-based educating is just one step in the process of delivering an effective instructional program using technology. It is possible that a teacher on the cusp of retirement would not be as likely to move to a BL instructional model as those early in their careers. Adequate support, communication, and planning are vital for all involved in such transformations and to guide efforts toward success. As Comas-Quinn (2014) also noted, "teachers found themselves having to learn too many things at once" (p. 227) and became especially frustrated when technological issues interfered with their ability to teach.

Delimitations. In terms of delimitations, the classroom observations will be focused on students who have at least one BL class. There will be no observations of non-BL classrooms that could contribute comparison data for examples of students grasping academic concepts, self-efficacy, and self-advocacy occurring throughout the school. The staff perceptions related to the research questions could also be affected by the number of BL classes in which students are enrolled. It is possible students enrolled in more than one BL class could present data that could affirm or contradict the benefits of BL instruction. Students without any classes structured around a BL instructional model could achieve academically and personally, through potential increases in self-efficacy and self-advocacy, better than students in a BL class. Since there will

be no sharing of student information or schedules, the only way students will be identified as having more than one BL class is if they happen to be in multiple BL classes observed.

Another delimitation is that no students will be interviewed either individually or as part of a focus group. Student information and feedback would result in data about how they perceive the instructional shift to BL has affected them in terms of the research questions. This could also provide an opportunity to include students who have not participated in a three-station rotational model of BL to explain their perceptions of the same research questions. There are specific challenges with interacting with minors in a study including the need to obtain permission from parents before any interaction. Another issue would be dealing with any information they could share such as abuse, mental instability, or feelings of self-harm that would require action as a mandatory reporter. Instead of interacting directly, classroom observations will be conducted to see students interacting with and learning through blended learning instruction.

Limitations. How effectively teachers have integrated the three-station rotation model of BL into their instructional program is a significant limitation. This study will occur during Hazleton's first full year of implementation, so teachers and students are still adapting and refining their approach to the structure. Teachers are continually revising lessons trying to best ensure their students' needs are being met. At the same time, students and teachers are still becoming more familiar and comfortable with using Dreambox and Reading Plus software programs. This is a limitation because not being more comfortable will affect students' level of self-efficacy with using and learning from them.

A level of unfamiliarity will also result in an increase in the time teachers must devote to planning their lessons to incorporate the programs. As Comas-Quinn (2014) noted, a "key challenge is how to enable learners and teachers to make the most of these tools, and support

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them as they acquire the necessary literacies and skills" (p. 220). The time teachers spend on obtaining, understanding, and incorporating the programs' available data into their instructional lessons will also decrease once they have a greater familiarity with the programs they use. Teachers and students are also just learning the software for the newly adopted mathematics and English Language Arts curricula, so the same issues both groups have with any other software will have a similar effect upon them with these.

Chapter 1 Summary

There is a history of changes in instructional approaches to improve the quality of the teaching and learning process. Many have been transformational and some short-lived. Schools have been experimenting with different methods of integrating technology into the classroom since a single computer would fill a large room. Technological advances have resulted in digital interfaces in most aspects of normal living. Adding technology as an instructional tool has proven effective at increasing student interest, but it may become a transformational shift in instructional delivery. If BL instruction does result in improved students' ability to grasp academic concepts, more genuine opportunities for students to develop self-advocacy skills, engagement, and a reduction of and prioritized teacher preparation time then it is a model that should be replicated in schools across the country.

Educators have experimented with various instructional models and techniques to positively impact students' ability and desire to work with and learn academic concepts. I have seen the benefits of BL through my middle school's initiative to integrate BL into our instructional programs. This study will focus on how the teachers and administrators at Hazleton Middle School perceive the impact of transitioning to BL instruction. While most research demonstrates success with blending technology into the instructional model to increase students'

ability to grasp academic concepts, this study will also seek to understand the extent to which teachers and administrators believe BL has impacted students' self-advocacy and self-efficacy skills. Teachers and administrators will also discuss their perceptions of any impact in the amount of time teachers spend preparing for class.

This single case study will use the data analyzed from interviews with teachers, a focus group discussion with three administrators, and classroom observations to investigate the perceptions of teachers and administrators on the impact of a three-station rotation model of blended learning in a Colorado middle school. The data from the first two sources will be analyzed to understand if they feel the switch in instructional method from a lecture based to three-station rotation blended learning has affected the time teachers spend planning their lessons. The observation data will serve as a third data point that will be analyzed and will offer data to be used for triangulation and validation of the others.

Chapter 2: Literature Review

Introduction to Literature Review

Educators have strived to discover ways to integrate technology into the school day. The key is to ensure the various 21st century technological advances become a meaningful part of the instructional day in a manner that will truly drive instruction and lead to an increase in students' ability to grasp academic concepts. Studies have shown that blended learning (BL) can be the transformative instructional shift that could bridge the gap in students' ability to grasp academic concepts and self-growth (Camahalan & Ruley, 2014; Kazu & Demirkol, 2014; Martin, 2013; Means et al, 2013; Napier et al., 2011).

The key to successfully maintaining engagement with technology is to find within the students a personal connection to what they are learning. Students using BL models that include a project-based option are more easily able to rotate into a segment of the class where finding then building upon their knowledge and what they are learning in the current lessons because of the increase in engagement. Another reason is these instructional models provide multiple measures of student progress (Longo, 2016), which offer the teacher a more precise level of students' grasp of the central concepts and objectives.

Camahalan and Ruley (2014) conducted a study to find the results on students' ability to grasp academic concepts when BL is implemented. Similar to exchanging time spent on behavior for an increase in students' ability to grasp academic concepts, BL software assists the classroom teacher through its ability to manage and maintain each student's multiple data points of achievement and learning gaps and have the data ready for immediate access and review. Software programs like MobyMax quickly generate a variety of reports, many of which can be formatted in spreadsheet software, thus reducing the time a teacher would spend working with

and manipulating student data and assignments. This translates into a significant reduction in the amount of time the teacher would normally dedicate to those tasks.

Camahalan and Ruley (2014) noted before the study began that the instructional focus was devoid of technology despite the fact that students and adults within the school are surrounded with technology. These researchers explained the BL writing curriculum would be facilitated through the use of MobyMax, an online website portal. They reported that MobyMax would adjust student work and tutorials based on their performance levels. The study concluded with findings that the academic growth from the students in the MobyMax classroom was almost 10% greater than students in a traditional, lecture-based classroom. One of the benefits of the program was that students were rewarded with video game-like activities when they completed lessons and demonstrated academic growth.

This is important because when students are made aware of their performance and growth, it can serve as an incentive for helping increase their levels of engagement and focus beyond what it had been because most are encouraged when they recognize they are learning. Additional class time devoted to personalized learning with a focus on students' precise needs. Added time can be used to address areas in which students demonstrate comprehension gaps to bring them closer to full mastery. In areas where students have achieved mastery, and the teacher can implement instructional activities that will provide learning extensions based on their personal interests. Doing so would not only make the class time more productive, but would also serve to capture the interests of far more students.

Blended learning frameworks that involve station rotation are also advantageous because of the physical movement that transpires as students shift between stations during instruction. There is a definite connection between improvement in students' ability to grasp academic

concepts and students having the ability to move around and be active (Mahar et al., 2006). This is even more pronounced in schools with even a moderate number of students who have issues with attention and focus, whether a diagnosed disorder or just normal short attention spans. Schools having a daily physical education program would benefit students even more, but this is not fiscally possible in some schools, so rotations would be another method for integrating some movement among students during their instructional time. Schmidt et al. (2016) found that even "a short cognitively engaging activity contributes to children's attention at school" (p. 7).

The benefits of BL can transcend the student body as BL lessens the restrictions seen even in what would be considered the least restrictive environment for all students. The gifted students, a group often left to their own accord or to support the teacher in guiding the rest of the class, have an opportunity with BL to extend themselves beyond the knowledge or experience of their teacher. The online component opens the power of the Internet to them. BL is also an effective instructional shift for students with disabilities. Englert, Zhao, Dunsmore, Collings, and Wolbers (2007) found that the benefits of BL helped the students in their experimental group exceed the performance of the control group, which was comprised of peers with similar disabilities.

The ability for ELL and/or socioeconomically disadvantaged (ED) students to access a BL software program on any connected device, including smartphones, provides them the ability to work on improving their basic mathematic and reading comprehension skills without the need of adult intervention outside the school setting. This will provide them the opportunity to access higher level materials and content-specific language for mathematics and reading, which addresses an academic need especially for ELL and ED students Huerta, Irby, Lara-Alecio, and Tong (2016) identified. A greater grasp of basic comprehension will assist with a second area

these researchers stressed, which is the importance for students to understand the connection that exists between an understanding of academic terminology and grasp of the associated academic content.

The benefits of BL in populations of students with special needs was not lost on Franklin et al. (2015). Their participants recognized that BL models fostered an increase in instructional involvement among these students. Another positive correlation to BL they found was "developing and implementing intervention models for students at risk of academic or behavioral difficulties or those students who have already been identified as having a disability" (p. 6–7) was easier for the teachers and more relevant for each student. They also recognized the importance of interaction between students and early interventions from their teachers and administrators when students experienced academic struggles. This increased attention is possible through the station rotation model where teachers can conduct conference and tutorial sessions individually or in small groups as needed in order to better support their students.

The research literature providing context for this study, primarily came from JSTOR, ProQuest, and Sage Journals Online located within the search engine of Concordia University's online library. There were also several other sources of information found through the Concordia library's online search engine. These articles in turn produced more sources by way of their references that included books and additional articles. In addition, other information was sourced from coursework in prior doctoral and graduate level studies. Several other sources were found using the Google Scholar site. Books used as reference material were purchased from book stores and Amazon when they were unavailable at university or community libraries.

Conceptual Framework

Camahalan and Ruley (2014); Douglas, 2004; Kazu and Demirkol (2014); Martin (2013); Means et al. (2013), Moolenaar, Sleegers, and Daly (2012); Napier et al. (2011); Pace and Mellard (2016); Prior et al. (2016); and Wilson and Narayan (2016) found increases in student achievement and self-growth after schools implemented BL instruction. Vancouver and Purl (2017) found that students' feelings about their own achievement potential is connected to the level of self-efficacy they have. Olivier et al. (2018) reported in a study of various theories supporting people improving their academic standing that the self-efficacy theory suggests a direct connection exists between students' belief in themselves and their learning. They also found improvements in ones self-efficacy comes through accomplishments realized in specific areas of study or jobs. Together, these studies demonstrate increases in students' academic growth, self-efficacy, and self-advocacy through BL instruction.

The increases in engagement with the curriculum and tasks through BL instruction (Francis, 2012) could impact students' intrinsic motivation. Bandura (2012) explained motivation connects to the self-efficacy theory because it provides a level of fortitude that could support students when they encounter challenges while they work towards mastery. The reason for this is connection is because those who have positive levels of self-efficacy, or a belief in their ability to be successful at a task, are far more likely to succeed whereas those who doubt their likelihood of success oftentimes will give up early in the task being "easily convinced of the futility of effort" (Bandura, 2012, p. 14). Olivier et al. (2018) found that students who achieved academic success in one area were also prone to increase their overall effectiveness at school. According to Vancouver and Purl (2017), increases in self-efficacy also impact successes.

A significant challenge for students who have had repeated experiences of academic failures is helping them overcome the doubt they have in their own abilities so they can find success. Bandura (2012) connected this obstacle with the self-efficacy theory by describing how "those of low self-efficacy are easily convinced of the futility of effort when they come up against institutional impediments, whereas those of high self-efficacy figure out ways to surmount them" (p. 14). Tang and Chaw (2016) described how "educational institutions are taking advantage of advances in digital technology to engage their students with various teaching and learning modes" (p. 54). Designers have developed many of the available software choices to automatically adapt to students' entry points for various learning objectives as well as concepts identified by the teacher. BL can then become an instructional method that could provide students with immediate and ongoing academic successes that could then impact their self-efficacy about that subject and school in general.

Review of Research Literature and Methodological Literature

Many studies have reported that schools where BL is implemented as the instructional model demonstrate an increase in students' ability to grasp academic concepts and develop both self-efficacy and self-advocacy. These same schools have also noticed a decrease in the amount of time teachers spend preparing for class. Johnson and Marsh (2014) presented a reflective article focused on a variety of previous research to highlight the importance of the teacher in BL environments. The main claim they made about BL instruction was that it assists instructors with the various transformations technology continues to bring to the classroom. Despite students not being more autonomous, the authors stressed the importance of the teacher in this environment as the planner of lessons. As Raved and Assaraf (2010) emphasized, it is important educators not

lose sight that any instructional material chosen for the classroom will have an impact upon students' desire to learn and become engaged in the learning process.

Teachers must also discover ways a BL instructional model can reduce and prioritize their preparation time while managing the instructional change process. Doing so will be helpful to them through saving time and improving the effectiveness of lessons, which will aid them in better serving each of their students. One method of this is becoming more familiar with the various software programs available to students and the vast offerings accessible on the Internet. Finding online support for managing BL instruction will help minimize the time spent on planning and structuring their changed instruction. As teachers plan, it is important that they recognize engaged students are most likely to find instructional success. Teachers can strategically plan activities that should result in higher levels of engagement in each of the rotation stations. Teachers and staff should experience a similar increase in their engagement when working together during team meetings and learning together and from each other in professional development sessions and peer-to-peer observations.

Francis (2012) noted that BL models employing elements of cooperative learning were proven to successfully better engage students than other instructional models they studied. Adam and Nel (2009) recognized there is an increase in learner insight when BL instructional models combine online work with more traditional configurations. BL has also shown to be effective at assisting students with increasing their self-efficacy and self-advocacy. Any increase in positive perceptions about students' ability to grasp academic concepts can transform the way students view their capabilities in the classroom and with assessments.

Brady et al. (2014) explained that students' desire to learn is connected to instruction aligned with what they like. Their primary claim was that self-efficacy best helps people attain

their goals. Students learning in a BL instructional model have better control over many aspects of their studies, can learn at a more comfortable pace, and engage in studies of topics within the learning objective that are most interesting to them. This breaks down the barrier of academic frustration that will allow them to develop self-efficacy about learning that could lead to a love for learning. Prior et al. (2016) explained that increases in self-efficacy are connected to students' ability to grasp academic concepts. Georgeson, Porter, Daniels, and Feiler's (2014) study indicated the importance for students to reflect upon their likes and dislikes about school and the academic needs they have. It is this belief in themselves and specific changes they would like to see that could lead to understanding how to request learning needs. Douglas (2004) found that many students increased their level of comfort in self-advocating, regardless of the interventions teachers implemented.

Pace and Mellard (2016) included self-efficacy as a focus for one of their research questions. They asked, "Does student reading efficacy continue to correlate with student performance in a blended learning environment?" (p. 158). They found that positive student self-efficacy is a major indicator of student success and that reading efficacy continues to be an important factor in student reading achievement in this blended setting. Wilson and Narayan (2016) found that "higher task self-efficacy and learning strategy use were associated with higher task performance, and higher task performance related to higher task self-efficacy" (p. 247). This is important because it demonstrates a positive correlation between students recognizing they can complete a task then employing that confidence to successfully complete another task.

Moolenaar et al. (2012) explained how their "findings demonstrate that collective efficacy is positively related to student achievement, with the highest correlation between collective efficacy and language test scores" (p. 257). They concluded the existence of a "group-

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level phenomenon that links learning and functioning of groups" (p. 253). Prior et al. (2016) also found a connection between increases in self-efficacy and students' ability to engage in positive relational and instructional efforts with each other. These findings connect with studies conducted on the self-efficacy theory because of the connection between a reduction in areas of struggle and a better self-image.

In their qualitative study, Napier et al. (2011) asked students and educators questions about their perceptions of integrating BL into their instruction in the middle, and then at the conclusion of the school year. The researchers found that teachers can implement some curriculum and supplementary resources with equal or superior results using BL as their instructional model rather than a more traditional method. Camahalan and Ruley (2014) and Napier et al. (2011) found that most students were more deeply engaged with the technology than their teachers. Students with higher levels of engagement with the instructional materials and lesson have a greater likelihood of increasing their understanding of the academic content presented. Camahalan and Ruley (2014) did note that students felt an increase in comfort knowing there was a teacher available to answer questions.

That teachers were able to notice that their students found studying in a blended learning environment more interesting was recognized by Tondeur, van Braak, Ertmer, and Ottenbreit-Leftwich (2017) in their meta-aggregation of qualitative studies. These researchers found that educators realized integrating technology within the instructional model was different than most other shifts they made because this affected the manner in which their students were interacting with and learning the content. A heightened level of interest amongst students was also found in the mixed-methods study conducted by Blanchard et al. (2016).

In their quantitative meta-analysis study, Means et al. (2013) sought to determine "the effectiveness of both purely online and blended versions of online learning as compared with traditional face-to-face learning" (p. 12). When selecting a BL model, schools must decide whether or not the program will be completely online or if there will be elements of face-to-face instruction or interaction. Means et al. (2013) reported that students demonstrated greater academic growth in BL instructional models than traditional lecture based or complete online instruction.

One issue with the full online instructional model is the lack of a teacher to direct and keep the students on task. Self-motivation is something with which many adults can struggle, so programs that ask children to manage themselves normally see significant issues with assignment and course completion. Even motivated students working diligently can experience failures from the lack of an available educator to answer questions and provide them necessary guidance. A drawback of a blended model in contrast to a fully online model is cost (Means et al., 2013), because in addition to the teacher, the school must also provide the Wi-Fi or other Internet connection, software, the building related costs, and possibly the equipment. The only costs for a fully online program would be software, a teacher, and possibly the device.

Adam and Nel (2009) conducted three longitudinal case studies and found the BL instructional model to be the most advantageous medium in comparison with online and face-to-face teaching. Personal computing devices such as cell phones, tablets, and laptops can offer students a wealth of knowledge at their fingertips, but diligent planning and implementation done with fidelity are vital in order to obtain the greatest academic growth. This study also found that blended learning models that included a teacher were the preferred instructional delivery for the students.

As with any institutional change, there are significant steps to preface the efforts of having teachers revise their instructional plans away from a more traditional lecture-based approach to anything that is more aligned with current studies and research. Woulfin (2017) focused on the actions of those leading change processes and explained the importance of communicating with stakeholders to make every effort to avoid confusion or misunderstandings that could lead to resistance. Pace and Mellard (2016) described "four implementations of the rotation model [that] are practiced: station rotation, lab rotation, flipped classroom, and individual rotation" (p. 156). The primary goal for making a shift to a BL model was to increase students' ability to grasp academic concepts by adding interest in the instructional material while students are transparently developing 21st century technology skills.

Horn and Fisher (2017) discussed two variations of station rotation. In order to better meet student needs, one Colorado school staff designed a "'tap out'" (p. 61) method where instead of students rotating based on a set time the teacher designates, students who finish with a station wait to rotate until a peer is finished at another station and they shift with each other. The other was in an Alabama middle school where staff created station rotations despite having a device for each student. Instead of these students remaining engaged on their own device, this model ensured students have an opportunity to meet "with a teacher who serves as a mentor to help them set short-term and long-term goals, build relationships, and explore personal interests" (p. 62).

The lab rotation, where groups of students travel to computer labs for their blended learning experience time and complete other instruction and lectures in their classrooms, was the model for Pace and Mellard's (2016) study. This model "had two components: general education classroom instruction and online instruction. The blended learning course was designed to teach

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students to read critically, analyze text, and cite evidence in order to support ideas" (Pace & Mellard, 2016, p. 158). One problem the researchers discovered was that the school designed the lab portion without adequate staffing and equipment for the numbers of students rotating through.

Maintaining an adequate level of self-discipline and focus is key to any successful instructional environment. This is especially true in one based on BL as a student surveyed in Martin's (2013) study shared how BL offers more freedom and self-direction than when the teacher dictates every move. Adult monitoring and direction are necessary, however, because when students are not disciplined or become academically frustrated while on devices, they could stray to sites that, at best, do not focus on the current lesson and, at worst, are inappropriate. The reduction in disciplinary focus will allow the teacher more time to devote to teacher academic supports for the students.

Martin (2013) found students in BL, rather than completely online, environments had greater success at controlling themselves giving their teachers more flexibility to assist students academically rather than behaviorally. When students can begin to keep themselves focused and motivated, they will also begin to develop ideas for their learning needs. Whiteside, Garret-Dikkers, and Lewis (2016) found that students of BL instruction increased their ability to understand when they needed assistance, which lead to them beginning to advocate for their own needs. Schools that incorporate this recognition into their implementation plan will help transform the role of the teacher to more of a supporting and guiding role rather than that of a director.

This increased level of what Schmidt, Benzing, and Kamer (2016) termed in their study, "cognitive engagement" (p. 2), relates to Brady et al.'s (2014) research that proved students who

are captivated are more motivated, both of which can lead to levels of academic increases that are sustainable. Whether instruction is technologically based or not, sparking student interest is vital for them to capture, process, and learn the material. Francis (2012) noted that BL instructional models are both "effective and engaging" (p. 147). The more students are interested, the more likely they are to remain engaged and learn the material. In addition, higher levels of engagement will help students from resisting the urges of going to websites or applications that are not connected to their learning objectives and assignment.

Students who are personally connected to their work are more easily engaged in their learning rather than being focused on external happenings in the classroom whether it be something happening outside, gossiping peers, or using their personal technology in ways that distract them from the assignment. A ripple effect is then possible where the number of distracted and off task students diminishes not by the actions of the adult or adults in the room, but because the students' level of engagement has exceeded their desires to be off task. Longo (2016) explained how teachers use BL to "spark students' curiosity by inspiring increased levels of motivation, creativity, and critical thinking" (p. 40). This increased involvement happens due to the perception of teachers in the study by Whiteside, et al. (2016) who believed BL provided better opportunities for their students to manage themselves throughout the curriculum. This same study found 89% of students preferred a BL course over the traditional model because they appreciated the greater ownership with their learning, which connected with their teachers' perceptions of why they preferred the BL model.

Adam and Nel (2009) found that students prefer a BL instructional model over others. This increased level in academic desire increases the likelihood of an increase in assessment performance. Franklin, Rice, East, and Mellard (2015) identified the primary reason for this,

which is that BL models allow for a heightened level of "learner engagement" in all students (p. 6). Tang and Chaw (2016) explained another benefit of BL is that learners can access the material when, where, and how they wish. Not every student will be focused on their assignments and grasping the academic concepts regardless of whether the classroom instructional model includes technology or not.

While BL models have distinct benefits for students with special needs and English learners, Douglas (2004) highlighted how an instructional shift to BL can aid students identified as gifted partly because these students do not always believe it is appropriate or timely for them to ask questions or seek what they need. Such students not working to their potential can begin to improve their performance through developing skills of advocating for themselves. One of the advantages of students in rotation models is they can learn from each other.

The area of self-advocacy is where BL could prove so effective with all students because of its embedded tools for addressing student interests and needs. If teachers embrace the project-based learning (PBL) component, and include a presentation aspect, they will have addressed what Georgeson et al. (2014) recognized possible. They stated schools whose staff provide "an *audience* to children's views by listening to what they say and then acting on this to demonstrate that children's views can *influence* provision" (p. 211).

Since self-advocacy is often a struggle for the gifted, by working in diverse groups, they can learn these skills from their peers. In this way, students recognize mutual personal strengths and how to support each other. Douglas (2004) also found that students are unable to utilize the full potential of the many resources available if they do not use them or seek help in incorporating them into their learning if they are unsure of how to do so. Camahalan and Ruley (2014) found that MobyMax, an Internet-based BL software programs, "allows gifted students to

progress quickly, while at the same time allowing remedial students the opportunity to for the extra instruction they need" (p. 3). It is this embedded differentiation that truly makes a difference in the instruction and also in students' abilities to understand how instruction could work to benefit them. This recognition could lead to these students progressing more quickly in other classes where their lesson completion is restricted by the teacher through a curriculum or pacing guide and/or other students' disruptive behaviors. It could also encourage students to ask for help.

A lack of self-advocacy, however, is not limited to the gifted students. Students with special needs are another group Caldwell (2011) recognized who struggle with the skills of asking for assistance when needed. Caldwell (2011) stressed the importance of students gaining an ability to advocate for themselves in an instructional environment because the more able they are at advocating for their needs, the more independent they will become. BL holds great opportunities for them because Douglas (2004) found students were excited at the prospect of being able to advocate for themselves. Further, they are gaining experience and self-confidence with implementing available resources and determining possible choices they have, whether by intuition or by questioning.

Borthick and Jones (2000) recognized that students prefer learning within a BL environment. One reason for this is that students begin realizing "how to find or create knowledge as they need it and to negotiate its meaning within the community of practice rather than to teach them only what the teacher believes they need to know now" (p. 183–184). This is possible with any instructional model, but the rotation model includes a station where students are engaged in self or group learning. Johnson and Marsh (2014) cautioned teachers to resist the attempts of addressing all course curricula themselves.

Johnson and Marsh (2014) encouraged the practice of allowing students to independently interact with academic content online because doing so can heighten the students' interest with the content while increasing their grasp of the academic content. Satisfaction with the material leads to comfort and Lewis (2010) determined that a high majority of those surveyed were content using a device to learn. Students also began to improve their grasp of academic concepts presented in different approaches. As such, students assigned their own meanings, connections, and methods of learning the material. Despite that finding, the role of the teacher does have importance as Means et al. (2013) discovered. They found in their meta-analysis that "blended instruction found a larger advantage relative to face-to-face instruction than did studies of purely online learning" (p. 29). Borthick and Jones (2000) pointed out that teachers being able to relinquish control offers them an increase in flexibility not found in traditional instructional models. Another advantage is their instructional model becomes more focused on their students' academic needs and interests.

A station rotation BL environment is one that has shown promise of meeting students' personal needs, but it can also offer students who are more oriented to learning better in groups a learning environment that also addresses their needs. To this effect, Douglas (2004) explained the significance "for students to understand their specific personal educational needs and to develop the skill to advocate for themselves" (p. 223). BL station rotations offer students a unique learning environment in that they interact with each other in various manners both face-to-face and in online environments while completing their work.

Deakin Crick, Broadfoot, and Claxton (2004) noted another benefit of students interacting and learning from each other. They found that "the isolated individualist learner is unlikely to be as effective as the learner who readily learns with and from other people" (p. 265).

The students' ability to grasp concepts in collaborative learning groups is not limited to academic material. Borthick and Jones (2000) stressed the importance of integrating activities into the classroom where students learn from and with each other because doing so increases students' chances of learning how to solve problems on their own.

In addition to providing students a guide for their future, Longo (2016) suggested BL instruction that integrates various social media and cloud platforms provides students with cooperative learning prospects outside of the school walls. This structure also provides teachers with an opportunity to teach proper behavior in online environments. Students can carry on productive and kind discussions over social media, but they need assistance in maintaining proper behavior and realizing mean and inflammatory comments there can affect people more than when done in person.

Borthick and Jones (2000) and Longo (2016) stressed the importance of using blogs and other shared communication tools available online to allow students the ability to share thoughts and insights with each other. Borthick and Jones (2000) explained that such types of discussion tools allow for numerous rapid feedback while not becoming a distraction for those or other students. One problem that faces teachers that blogs can resolve are students who dominate discussions and silence the thoughts of others.

As the more dominating students continue to talk, their peers who wish to share oftentimes forget what they were going to say. Blogs allow all voices to be read and those reading can select what to read and when to move onto another entry. Longo (2016) pointed out such tools will also provide students with a vehicle to share their personal connections and ability to grasp academic concepts, with which their peers can create their own new understandings of their history and the lessons (p. 37). According to Martin (2013), another

positive result of these blogs and other online communication is students have an increase in their academic reluctance, which allows them to share their thoughts and questions more freely than in a traditional classroom setting. The records of such interactions, as Borthick and Jones (2000) noted, can also serve as notes from which students can study thus presenting another way they could learn from each other in a BL environment that would not be as possible in a traditional instructional setting. These many manners in which students in a BL environment are able to cooperatively collaborate could connect the self-efficacy theory not only to efforts to improve students' ability to better interact with instructional materials, but their peers as well.

Martin (2013) also discovered through his study that BL instructional models served to increase learners' mettle. Students who are more comfortable with their ability to grasp academic concepts and manipulation of the materials can, according to the self-efficacy theory, begin to advocate for themselves based on what they understand about themselves and others. Once students develop self-efficacy and self-advocacy regarding their ability to grasp academic concepts, they will begin to feel empowered to make decisions about their learning life. de Bruin, Thiede, Camp, and Redford (2011) found children as young as 10 can make informed decisions about their learning proving students can advocate for themselves, which will help bolster their self-efficacy. Such empowerment could lead to students making more decisions for the long-term rather than living life moment to moment.

The self-efficacy theory also claims when students begin taking ownership of their learning, their academic abilities will increase. Englert et al. (2007) found BL instructional environments assist student populations with disabilities realize greater success than those in traditional classroom environments. In comparing student populations, Franklin et al.'s (2015)

qualitative study found there was no difference in learning pace between students with and without special needs when taught within BL environments.

Another population of students who are historically under-represented amongst high achieving students who are high achievers are those whose families are financially insecure. Students receiving free or reduced meals because of their families' financial standing introduces more reasons to find an academic intervention that is no cost to their families. This group of socioeconomically disadvantaged students is unlikely to have additional outside tutorial support or attend an academic daycare type facility due to the financial strains either would exert on the family.

In their study of Texas fifth and sixth grade students who are both ELL and socioeconomically disadvantaged, Huerta et al. (2016) found that many lack necessary vocabulary and verbiage required for success in schools. Once students master basic reading comprehension, they will be more likely able to access higher level academic language. Kazakoff et al. (2018) stated that ELL students need assistance that transcends the traditional instructional model and recommend "1-to-1 tutorial sessions or small group instruction" (p. 431), which is what BL can provide.

Using quantitative methodology in their study, Kazu and Demirkol (2014) reported "students who have studied in blended learning environment are academically more successful than the students who have studied in traditional learning environment" (p. 85). It is exciting to see any student realize success, but when students with disabilities and those learning a second language exceed their previous potential, the rewards are multiplied tenfold. Camahalan and Ruley (2014) found students engaged in a BL environment scored over five percent higher than their peers in traditionally taught classrooms. Means et al. (2013) explained that their work

analyzing prior studies demonstrated BL instructional models exceeded the instructional successes of conventional models.

While numerous studies present findings of significant increases in self-efficacy, empowerment, self-advocacy, and academic gains, Pace and Mellard (2016) found no significant link between BL and an increase in achievement or reading self-efficacy. Despite this finding, even if Pace and Mellard's (2016) study is accurate in all instances of BL implementation, the simple provision of providing students with an opportunity to oversee elements of their learning could be worth the various costs involved with transforming the traditional teaching method to one based on BL if only in terms of addressing the framework of the self-efficacy theory.

Review of Methodological Issues

Whereas this study utilized a qualitative methodology, the literature used in the research for the study was a combination of qualitative, quantitative, and mixed method methodologies as well as professional writings based on experience and reflection not connected to any specific research studies. Those that were research based utilized a wide varieyy of different data analysis techniques. The purpose of including studies that differed in methodology and analysis as well as other writings was intentional in order to discover trends in the discussion of blended learning, self-efficacy, and self-advocacy. No detectible gaps were identified in any of the literature, but if any potential gaps do exist, they would be bridged by the variety and scope of studies and other literature included.

Creswell (2018) defined methodology as the process of research. It seems all possible types of methodologies have been utilized to understand then share the findings about topics such as: blended learning, technology, advances in students' ability to grasp academic concepts, and professional development for teachers. Education is, at its soul, a practice of the humanities

where people learn from and with each other. While less personal, quantitative studies deliver precise numerical data demonstrating evidence that incorporating blended learning into an instructional model will help students learn more and achieve better on assessments. Qualitative studies focus on the storytelling and personal connections recognized. One such qualitative case study was conducted by Bingham (2017).

The focus of this study was students at a high school where the staff sought to increase personalized learning through incorporating devices was. This study demonstrated the process for taking observation field notes and a few important activities by the students and teacher to seek out. In terms of students, Bingham (2017) recognized the effort they would make to conceal their violations of the rules while using the devices despite the teacher having software enabling her to view their device screens. These notes clearly establish the need for professional development so teachers have the greatest chance of successfully integrating BL into their classrooms. Overall, most of the research demonstrated gains in students' ability to grasp academic concepts, self-efficacy, and self-advocacy. It was evident that, at least in the first four years, teacher plan and preparation time increase before dropping significantly when compared with the more traditional teaching methods.

Synthesis of Research Findings

The primary finding when synthesizing the research data is the preponderance of evidence that a shift to BL instruction, while necessitating investment in time and equipment, is a worthwhile investment for both the students and instructors in all levels of education. Kazakoff et al. (2018) stated that "the blended learning approach was found to be particularly beneficial for at-risk students in both EL and non-EL groups" (p. 442) and that students' ability to grasp academic concepts continued to increase beyond the first year of implementation. As with any

change process, the key for success is connected to the work in which the leaders engage themselves leading up to the start of the change. Having a coherent message and plan will assist in garnering support from many of the stakeholders leading up to the shift and will enable leaders to communicate a clear message about the why and how for the change.

Teachers having time to collaborate with each other and other educators who have made the instructional shift is another crucial component of frontloading this transformation. Pedagogical issues, namely teacher preparation time become more manageable over time with the instructional shift to BL. Arokiasamy, Abdullah, Mohammad, and Ismail (2016) found that such "transformational leadership practices" (p. 155) directly correlate with a more content staff. Kazakoff et al. (2018) noted that professional development trainings for staff is key to the success when transitioning to BL.

Rattan, Savani, Chugh, and Dweck (2015) explained how "environments that promote belonging mindsets among negatively stereotyped students can narrow achievement gaps" (p. 722). Being more in charge of their learning, students are more willing to ask questions— especially if their teachers find unique ways to interact with their students online. Pace and Mellard (2016) noted that engagement was the mutual responsibility of both the teacher and students. They stated, "teachers were expected to interact with students via digital discussion, e-mail, chat, and system announcements, and students were expected to interact digitally with one another" (p. 159). This mutual accountability contributed to students demonstrating a greater ability to stay engaged with the curriculum than if the teacher and students had no such directive. This also would have contributed to a mindset change amongst all participants to engage more freely with each other because it was a requirement.

Whiteside et al. (2016) found that "blended learning opportunity can increase self-regulation, boost inquiry, and help students, as one student participant noted, feel 'more confident'" (p. 150) about future studies. Not only does an increase in students' self-efficacy and perception help students feel better about themselves, but Moolenaar et al.'s (2012) study determined "that collective efficacy is positively related to student achievement" (p. 257). Students recognize they can do more of their work independently rather than the more traditional approach of asking the teacher for guidance, which many times was to avoid the work altogether.

Students being able to accomplish more work independently leads to the most essential benefit of the BL shift. Research supports the fact that students' ability to grasp academic concepts increases through BL instruction. Camahalan and Ruley (2014) studied the effect of a BL instructional environment and found that BL improves students' ability to achieve academic success and they like it more than the traditional classroom. In fact, they found their "blended learning group [realized] a 5.25 % gain on the face to face group" (p. 6). Longo (2016) found successes extend beyond the classroom environment and onto assessments. Rattan et al. (2015) echoed the positive influence on all aspects of students' lives as they commented on the potential of academic mindsets when implemented correctly. Because of changes in curriculum, standards, and assessments, "it will be even more important to impart instruction in a way that stimulates problem solving by utilizing multiple learning and teaching approaches such as blended learning" (p. 33).

Along with creating a more personalized approach, BL instruction—specifically station rotation models—can help classes with more than 25 students seem smaller by dividing the class into groups. Just creating groups of students in a classroom can create a management problem that Johnson et al. (2016) discussed. Blended learning designs that involve station rotations

resolve this challenge for teachers by providing specific activities for the different groups of students. Francis (2012) and Napier et al. (2011) stated that BL instruction is successful at helping teachers manage such large classes. Because of the groupings, even with a larger class of 30 or more, the feel of the class is that it is smaller. Students, especially those at the device station, tend to manage themselves better. Mathis (2017) stated that decreasing class size to between 15–18 would result in increased academic performance for all students, but the benefits are greater for low-income and minority children, which represents a significant population base for students at Hazleton.

Contrasting Mathis is Chingos' (2012) analysis of students in Florida who demonstrated that class size reduction there resulted in very little if any impact upon academic performance despite costing billions of dollars per year to implement. This Florida legislation required class sizes of "18 students in prekindergarten through third grade, 22 students in fourth through eighth grade, and 25 students in ninth through twelfth grade" (Chingos, 2012, p. 545). However, only the first four years of instruction fall within Mathis' recommended size of 18 and under. While smaller class sizes might not always demonstrate real academic gains, they are far easier for teachers in terms of student management and normally provide less distractions for the students. Because of funding and building limitations, it is not always possible for schools to have the amount of staff required for class sizes under 20.

In the three-station rotation model of BL, students at one station are using devices writing, performing research, or using the software programs. Francis (2012) found such systems also assist with advances in levels of academic achievement. Another group of students is normally with the teacher in a lesson review, extension, or question and answer session. The benefits of this station are the flexibility for both grouping and the teacher role. Horn and Fisher

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(2017) explained that in a BL setting, "by shifting some instruction online, teachers could devote more of their limited time to face-to-face coaching and small-group instruction" (p. 60). If the station is used in a day for remediation, it is possible to have higher level students mixed with students who traditionally struggle academically with a certain objective. This helps narrow the divide that can exist in terms of students' ability to grasp academic concepts. Both groups of students also have an opportunity to learn from each other. It is also possible for teachers to use this station for conferencing and reviewing students' progress with assignments. Since there are never more than ten students at the station, those waiting for their conference are preparing while those who finished can work on correcting the issues found during their discussion time.

The final group is normally a PBL station with either an individual or group assignment that will serve to extend the lesson. Tamim and Grant's (2013) research in PBL found the "effectiveness and teachers' perceptions of it indicate that [PBL] is not simply an instructional model that aims at gaining knowledge about specific content areas, but it is one that targets the building of the learner as a whole" (p. 74). There are several different types of projects students can complete in this station that range from planning work, such as dioramas or displays for presentations to scaffolds and outlines for research projects. Basham, Hall, Carter, and Stahl (2016) explained how different a PBL environment is when compared to a traditional learning environment because PBL focuses on the academic needs of each student rather than the group.

O'Keeffe and Medina (2016) found that "instructional scaffolding provides temporary support structures within lessons to support students with learning new skills" (p. 80). Whatever the culminating assignment, Hsu, Van Dyke, Chen, and Smith (2016) found PBL that also considers a personalized focus "allows students to gain a deeper understanding of materials when they actively construct their understanding by working with and using ideas" (p. 55). Basham et

al. (2016) continued by pointing out that "for personalized learning to be operationalized in schools, environments must provide the learners and teachers with necessary capacity, tools, and strategies to support effective implementation" (p. 134). A BL model can accomplish each of these through the support of the technology.

The advantages of BL were shown to filter through the various student body groups such as those with special needs, students whose first language is not English, and those students identified as being gifted. BL lessens the restrictions seen even in what would be considered the least restrictive environment for all students. The group often left to their own accord or to support the teacher in guiding the rest of the class, the gifted students, has an opportunity with BL to extend themselves beyond the knowledge or experience of their teacher. The online component opens the power of the Internet to them. BL is also an effective instructional shift for students with disabilities. Englert et al. (2007) found that the benefits of BL helped the students in their experimental group exceeded the performance of their peers also with disabilities who comprised the control group.

The ability for ELL and/or socioeconomically disadvantaged students to learn with BL software they are using in classes on any connected device, including smartphones, provides them the ability to work on improving their basic mathematics and reading comprehension skills without the need of adult intervention outside the school setting. This will provide them the opportunity to access higher level mathematics and reading materials, which in turn will provide them the opportunity for accessing academic language. Doing so will address the need Huerta et al. (2016) found that "educators should embrace strategies that build up ELL and ED students' language and content-area understanding" (p. S282).

School change initiatives are not new, but BL has proven to be not only advantageous for instructors, but also for their students. The reduction in time commitment both in lesson preparation and delivery provides educators more time to consider individual students' academic achievement needs and interests while also providing an opportunity for them to be more responsive to their needs and questions during lessons. This increase in instructor focus on their students along with the intuitive technology has resulted in an academic transformation that is advantageous for teachers and students. The fact that academic growth has been proven through BL is reason enough for schools across the globe to immediately begin this instructional transformation.

Ravitch and Riggan (2017) consider the conceptual framework to serve as a superstructure for a study. The self-efficacy theory, the conceptual framework for this study, indicates that increases in students' self-belief and goal setting is directly connected to students' academic achievement. Previous research also indicates that instructional shifts to BL result in improved self-efficacy and self-advocacy, which could contribute to students' academic growth. Overwhelmingly, the evidence is that BL works to increase students' academic understanding; however, there were several studies that demonstrated otherwise.

Critique of Previous Research

While computers and other devices being incorporated into the fabric of lessons is not new, teachers modifying their instructional approach, so the technology is transparently interwoven into it has only been possible for the last 25 years or so. As such, most research is relatively recent and the approaches and techniques of integrating BL are still adapting. Raved and Assaraf (2010) noted even the students in their study understood the importance of a teacher in their learning.

Pace and Mellard (2016) had significant issues during the online portion of the BL instruction within their study that likely interfered with the data. The fact that there were over 50 students in a single computer lab is of significant concern. This number of students in one area would have had a negative effect upon their ability to focus because there were so many other students with whom other students would have likely become distracted. Because this was not a station rotation environment, these students were not learning in a classroom environment that would have seemed divided and thus smaller.

Another issue was the absence of earphones despite students having to listen to content. The noise volume in a computer lab with muted chatter amongst students can become a distraction. When combined with the noise of over 50 students listening to stories playing at different places and volumes would definitely interfere with students' ability to focus on their own material. The large number of students and lack of earphones would also become a classroom management issue that could be a challenge for the most veteran teacher to control.

The final concern with Pace and Mellard's (2016) study is that non-credentialed staff monitored students during their online portion of instruction. While many support staff can manage instructional time, the absence of a certified teacher is troubling both for classroom management and instructional concerns. It is a significant challenge sometimes even for the best teachers to monitor, support, and manage a class size of 30 in their classrooms. To ask, as the school did in Pace and Mellard's (2016) study, that a classified staff member would do so in the lab setting with 50 students would further reduce the amount of productive time these students likely already lost just by being in a loud computer lab.

This issue raises another concern with BL integration and that is the perception that a trip to the computer lab will suffice as the device rotation station. This is simply not the case and

treating it as such will not result in the academic and self-perception growth students should realize. It will also not assist in instructors being able better focus on individual students because, as in this example, the teacher was not even part of the device rotation.

In fact, Tondeur et al. (2017) cautioned that "any outcomes from an identified change are likely to be produced through an involved chain of events" (p. 571). With that, it is important to be wary of attributing the results seen after any change specifically to that particular change. It could be that any professional development offerings and the associated emphasis on improved pedagogical practices that would be most likely to lead to an improved instructional delivery by the teacher and better understanding by the student were as much a part of students' ability to grasp academic concepts as the program implemented.

Another issue is found in Franklin et al.'s (2015) study. While it appeared these researchers' data was reliable, that data was only from the perspective of the school administrators. A better study would have incorporated thoughts from other stakeholders that would absolutely include students and teachers. School administrators at any level are not in the classroom actively teaching and any study or approach that would ignore, discount, or even not focus on the voices and feelings of the educators who are the ones teaching is doomed from the beginning.

Chapter 2 Summary

As was evidenced by the data produced following the meta-analysis studies conducted by Means et al. (2013) and Pace and Mellard (2016) a blended learning approach where a technological component is integrated into the traditional face-to-face instructional model provides the opportunity for students to increase their ability to grasp academic concepts. They also found evidence that instruction or a blended model that utilizes a purely online component is

not as successful because it lacks the continued face-to-face interaction with a credentialed teacher. In addition to the variety of student gains found from the research on schools that have engaged in a learning transformation by integrating blended learning into their instructional programs, students also benefit personally.

Blended learning models were shown to help students increase levels of both self-advocacy and self-efficacy. There were also benefits realized by teachers through an instructional shift to BL through decreased preparation time and greater ability to conduct one-to-one conferences during regular instructional time. Another advantage for teachers through BL is that the software can deliver many of the accommodations and differentiated instructional techniques that were once the responsibility of the classroom teacher to determine the best method, design it, and implement it while teaching to the rest of their students.

As with any new program, planning and ongoing communication and reflection are key to the success of any BL model being implemented. Having a clear vision for the expectations and path will help stakeholders determine the type of devices and software or Internet based programs that will be purchased to serve as the instructional materials for the transition. Once these are decided upon, Blanchard et al. (2016) advised to pair those with appropriate professional development to best support the staff and increase the likelihood of increases in students' ability to grasp academic concepts.

If a school decides to transform their instructional approach to include blended learning, the stakeholders must be cautious about which approach they choose as their focus or they will struggle to manage their students while they are using the devices. Lack of control will negatively affect students' ability to grasp academic concepts because they will likely be off task while on the devices. The absence of adequate evidence of students' ability to grasp academic

concepts will be exacerbated if instructional management in a BL setting is inadequate. Bingham

(2017) noted that "when the online curricula were not well-designed or did not provide useful

data, teachers reported feeling overwhelmed and dissatisfied with the school model" (p. 524).

Chapter 3: Methodology

Introduction to Chapter 3

As a middle school administrator myself, using self-efficacy theory to guide this study felt the most appropriate because of the correlation between learning and self-belief (Olivier et al., 2018). Previous research helped establish already identified patterns and practices with BL implementation and change initiatives in schools. The case study method presented the perceptions that Hazleton Middle School's administration and teachers have about the impacts of blended learning implementation with students improving themselves academically and personally while also reducing the amount of planning for the teachers. This study included data from multiple sources including classroom observations, individual interviews, and focus group interviews that were reviewed and coded for analysis as Saldaña (2016), Adu (2013), Creswell (2018), Mapotse (2015), and Sagoe (2012) described.

Deakin Crick et al. (2004) explained that students learning in groups is far more effective than when they are working in isolation. Their study examined the perceptions connected with an instructional shift to a station rotation BL environment at meeting student needs based. Along with the importance the educators have in design and implementation, Camahalan and Ruley (2014) stated that blended learning instruction should also include software that should provide visually engaging and fun exercises to help students fill any achievement gaps and extend their knowledge and ability to read and perform mathematical calculations.

Research Questions

This study included five research questions centered around the perceptions and observations of benefits or drawbacks to students and teachers after Hazleton Middle School transformed their instructional plan to include a three-station rotation model of blended learning.

RQ1. How do teachers and administrators perceive the impact of a three-station rotation model of blended learning on student ability to grasp academic concepts?

RQ2. How do teachers and administrators perceive the impact of a three-station rotation model of blended learning on student development of self-advocacy skills?

RQ3. How do teachers and administrators perceive the impact of a three-station rotation model of blended learning on student development of self-efficacy skills?

RQ4. How do teachers and administrators perceive the impact of a three-station rotation model of blended learning on student classroom engagement?

RQ5. How do teachers and administrators perceive the impact of a three-station rotation model of blended learning on teacher preparation time?

Purpose and Design of the Study

Framed within the self-efficacy theory, the purpose of this single case study is to investigate the perceptions of teachers and administrators of the impact of a three-station rotation model of blended learning in a Colorado middle school. With the self-efficacy theory serving as the conceptual framework, this study will evaluate the perceptions of the impact of BL instruction that Hazleton and many other middle schools have implemented, which connect with the classification both Stake (1995, p. 4) and Yin (2003) referred to as a "*representative* or *typical*" (p. 41) case study. Yin (2014) later refines the term for this type of study as being "common" (p. 51). While there is a great deal of research data to suggest BL could positively impact students both academically and socially, the data and results from this study should assist the teachers and administration at Hazleton recognize the impact of BL on their school. This could then assist them in continuing to refine their approach so it can be the most effective for them and their students.

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This single case study examined perceptions of a three-station rotation model of blended learning that has been in full implementation since the beginning of the 2018–2019, school year. Yin (2014), Stake (1995), and Creswell (2018) stated how important it is that the research design serves as a guide for a study while also helping to align the various components of the study with the study's purpose. As such, the data from this study should provide insight regarding how the teachers using BL at Hazleton Middle School and their administrators perceive their instructional change has had on students and teachers' preparation time. Baxter and Jack (2008) warn researchers to evaluate "breadth and depth of the study and not simply the sample to be included" (p. 547). To accomplish this task, the study's plan, research questions, and observation protocol were analyzed in terms of the overall purpose for the study, the conceptual framework, and actual data collected. After data from interviews, focus group discussion, and observations were entered into an Excel spreadsheet, the spreadsheet enabled sorting and deeper analysis. This analysis was conducted between data groups, similar and contrasting responses and observations, as well as subjects taught. A determination was made that the planned scope was not overly broad and that all elements connected back to the study's purpose.

Research Population and Sampling Method

This research study focused on teachers who have incorporated blended learning into their instructional plan, the school's three administrators, and observations of students at Hazleton Middle School, which is a public school located in Colorado. In discussing sample sizes, Malterud, Siersma, and Guassora (2016) claim there is no specific number required to participate in a qualitative study only to ensure a desirable number of people are interviewed so that the data collected is broad enough to enable Hazleton-specific generalizations to be made. Marshall, Cardon, Poddar, and Fontenot (2013) agree that there is no clear standard set. Sagoe

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(2012) also stated that the "size of groups and membership characteristics can [. . .] be adapted to meet research needs" (p. 4). In this case, there are only three building administrators, and all participated. Emmel (2013) contended having a focus on size is a misleading focus. Instead, researchers should ensure the sample will adequately address "ways in which the working and reworking of relationships between ideas and evidence in the research are a foundation for the claims made from the research" (p. 137). As all three administrators participated, this was not an issue, but Emmel's stance on the importance of relationships within a study was embraced and served as a guide through all stages of this study. The data demonstrated relationships, or patterns. It was also apparent from the initial preparatory interviews through the data collection of the presence of strong personal relationships between staff and students at Hazleton.

Using purposeful sampling as a guide, which according to Emmel (2013) is used when it is possible to select the target sample prior to the study commencing, also allows for adjusting the samples during the study. Emmel (2013) also stated that "purposeful sampling is not just about practical and achievable considerations. Theory is considered" (p. 34). Baxter and Jack (2008) advised researchers to create a sample range for qualitative studies. As such, a sampling of teachers using BL in their classroom helped in understanding those teachers' perceptions and with collecting classroom observation data regarding impacts BL has had in terms of the self-efficacy theory. The collection of data also addressed the study's purpose and representative design.

Following the parameters of purposeful sampling, all three administrators participated in the focus group discussion and at least 75% of the student body was seen during classroom observations. The goal was to interview 12 of the Hazleton core subject teachers, but because the staff was so interested in sharing what they are doing at Hazleton the total interviewed and

observed was 16. The 16 teachers interviewed and observed included nine ELA and mathematics, a technology, three social studies, and three science teachers. The next phase was to attend at least 30 minutes in each of their classrooms during BL instruction, but a second visit was made as station rotations were not occurring in each of the classes during the observations. Students are not included in the sample of the study because, as they were only an observable part of the classroom observation protocol, they did not participate in any way.

Hazleton has a mixed demographic population, but of the just over 600 students, 66% are Hispanic or Latina/o. Another 28% are Caucasian, 3% are Black or African American, 2% are Asian, 1% are Two or more races, and 0.15% are American Indian or Alaskan Native. In addition, 76% of the Hazleton Middle School students qualify for free or reduced meals. Of the students, 20% are identified as an English Language Learner, 16% have an Individualized Education Plan, and 8% are identified as Gifted and Talented.

Creswell (2018) stated that "qualitative research involves an interpretive, naturalistic approach to the world" (p. 7). As such, this case study provided an opportunity to study students, teachers, and administrators in their element. Further, a judgement or purposeful sampling method complemented this approach because, as Koerber and McMichael (2008) stated, it is important that the information collected has as much variety as possible from as many different people involved to ensure that disparate thoughts are collected. Marshall et al. (2013) stated that "no other research task is more fundamental to creating credible research than obtaining an adequate sample" (p. 11). In this study, this was accomplished through the three different types of instrumentation and by ensuring an adequate sample size of each group was studied. Since all three administrators were included and approximately 75% of the student body observed, it was important to ensure the teacher's were also adequately represented in their sample. Classroom

observations of the different periods of ELA and mathematics, along with sections of technology and two science classes increased the variation of the study's data.

Instrumentation

There were three instruments used to collect data for this study: interviews with teachers, a focus group discussion with the three admimistrators, and the classroom observation protocol. The Teacher Interview Questions instrument is a series of questions based on the study's research questions that provided for a beginning of a discussion (see Appendix A). As with the questions listed on the School Administrator Focus Group Discussion Questions instrument, freedom was granted for participants to freely discuss and elaborate their thoughts and feelings (see Appendix B). The ability to meet with and allow for free discussion along with the prepared questions created an opportunity for the participants to become familiar with not only the process and plan for the study, but also with the researcher. The Classroom Observation Protocol instrument served as a guide for recording the information during classroom observations (see Appendix C).

Data Collection

Data was collected using a focus group discussion with the three building administrators and individual teacher interviews and classroom observations. These sources served as data points that allowed for triangulation. Concerns about conflicting information would result in an additional observation to help verify the validity of the responses and interview with the administrative team. Failure to do so could invalidate the ultimate findings of the study. The advice Saldaña (2016) wrote was heeded in that everything observable during each of the three activities was written down for collection.

The goal for classroom observations was to observe each of the teachers' classrooms who were interviewed for at least 30 minutes, which is the duration of one of two daily blocks of these subjects. If classroom practices were significantly varied or if there was evidence of teachers who claim to have implemented BL, but it was not seen, a plan was in place for a second visit to observe those classrooms. There was little to no evidence of three-station rotations occurring in more than three of the classes visited on the first day of observations, so a follow-up visit was made to see those classes using station rotation. In total, twelve classrooms were observed for 30 minutes each.

Administrator focus group. The purpose of the focus group was to obtain the collective knowledge, experiences, and observations from the three school administrators. A building's administration is in charge of the operations and functions of a school. As such, they should be aware of all the occurrences and functions within the school. While that is the expectation, sometimes the administrators are not always kept fully informed of issues and progress with programs and curricula being utilized.

Morgan, Eliot, Lowe, and Gorman (2016) explained that a focus group discussion and dyadic interviews are similar in nature, but that focus group discussions are preferable because there are more participants. The expressed concern about larger focus groups is that the responses can become difficult to track as participants often talk over each other and the chance of one person dominating the conversation. Sagoe (2012) explained that focus groups are an excellent data collection tool in qualitative studies and that they can serve to provide data for assessment of the effectiveness of changes made.

Both focus groups and dyadic interviews are seen as the preferred method over traditional individual interviews because of how the "active interaction between the participants goes

beyond interviewing" (Morgan et al., 2016, p. 110). Another advantage of these types of data collection tools was illustrated by Liamputtong (2011), who indicated that they "allow group dynamics and help the researcher capture shared lived experiences, accessing elements that other methods may not be able to reach" (p. 4). There were eight open-ended questions prepared and asked during the focus group discussion. A moderate level of flexibility was employed to allow for open discussion while also navigating through all eight questions.

The focus group discussion with the three administrators included eight questions (see Appendix B) where the objective was to collect data about their perceptions of whether they believe there have been any changes to students' ability to grasp academic concepts since the transition to the BL instructional model and if they feel the BL environment could have contributed. Each administrator was also asked for specific examples of self-advocacy and/or self-efficacy changes they have noticed from their students within BL learning environments. Another question was about the length of time they feel their teachers have been spending preparing and planning for BL lessons in comparison with lessons before they had instituted the BL learning environment. There were opportunities throughout for the administrators to contribute their own thoughts to the conversation about BL and its impacts on learning, instruction, and culture. Throughout the discussion, the administrators were encouraged to speak freely about their perceptions and observations of BL with the hopes their open conversation will provide more clarity about the impacts of BL within their school.

Teacher interviews. Whereas a school's administration might not be fully abreast of the status of processes; procedures; and curricula matters within classrooms, the teachers are on the front line and encounter these daily. Getting their input and perceptions provided information as close to the students as possible. As was the case with focus group discussions, Stake (1995)

stressed how important the role of the interviewer is so the responses go beyond simple one- or two-word answers and become "special stories" (p. 65). As such, it was important to obtain not only the teachers' responses to the eight open-ended discussion questions prepared for the interviews, but also to elicit unique occurrences to paint a picture of their responses in action. As with the administrators in the focus group, flexibility was honored and encouraged in the discussion to enable this to happen.

During their individual interviews, teachers were asked a series of eight questions (see Appendix A) to collect data about their perceptions of whether they believe students have increased their ability to grasp academic concepts since they have begun learning in a BL environment and if they felt the BL instruction could have contributed. These transitioned into discussions about whether the teachers believe they have recognized any differences in their students' self-efficacy and/or self-advocacy skills because of the work they are doing within the three-station rotation BL model. Each teacher was also asked to provide examples they have seen of students demonstrating self-advocacy and/or self-efficacy increases they feel were connected to the implementation of BL. Another question focused on the length of time each teacher spends preparing and planning for BL lessons in comparison with lessons before they had instituted the BL learning environment. There were opportunities throughout for each teacher to contribute their own thoughts to the conversation about BL and its impacts on learning, instruction, and culture.

For the interview to be comfortable enough so the discussion would be more likely to result in collection of teacher memories, these interviews were conducted in the teacher classrooms, or in one case, the library. Yin (2014) wrote that a shorter interview might not provide an opportunity for the researcher and interviewee to establish a relationship, but this was

not an issue because a connection as educators served to connect us almost immediately. I began each interview with a brief summary of my experiences in education from school bus driver to teacher to administrator to enable them to better recognize me as one who would understand their situations.

Classroom observations. The final instrument was classroom observation protocol of the classes that have instituted the three-station rotation model of BL as well as a technology and two science classes for a total of twelve classroom observations (see Appendix C). The purpose of these observations was to document instances where students demonstrate the ability to grasp academic concepts, the ability to advocate for themselves, and evidence of self-efficacy that could connect with data from teacher interviews and administrative focus group discussions. The latter was the most challenging to recognize in a single period of observation, but proved possible to see several students in each of the classes demonstrate instances of self-efficacy and self-advocacy. Gauging gains was not possible even in the return visit because different periods of ELA classes were visited.

To best ensure valid data was recorded, an additional observation would have been conducted if there was any conflicting interview data regarding students' ability to grasp academic concepts, improvements in students' ability to advocate for themselves, or levels of self-efficacy all related to the instructional transformation using the three-station rotation model of BL. The second observation was conducted to see if teachers in two of the ELA classes, in which every student had a device, but station rotations were not being used, actually had implemented station rotations or if the teachers only use instruction where each student has a device without any rotation. This follow-up visit also served as another attempt to see several ELA and mathematics teachers who were not present during the initial observation.

The comparison of the overlapping findings from the interviews and observations provided a comparison of similar data points, which allowed for triangulation. The point of this was to ensure the information gathered could be validated for consistency and reliability as suggested in writings by Creswell (2018), Stake (1995), and Yin (2014). For instance, there would be a data breakdown if one group interviewed perceived that BL has led to an increase in students' ability to grasp academic concepts, but the other group did not. In this case, follow up analysis of observations and interviews with the administrators who could consult assessment data could resolve the discrepancy.

Extensive field notes were taken with separate sections for each of the research questions and another for any general observations that seem important including potentially relevant nonverbal communications. Examples of such nonverbal communications were teachers who gave affirmation nods, a student who shoved a peer, and the number of students who raised their hands when questions were posed by their teacher or a peer. The focus of the notes included observations on student activities, the degree to which it was apparent that students were grasping academic concepts, evidence of students advocating for themselves, and students who displayed self-efficacy. Johnson, Chafouleas, and Briesch (2017) highly recommended attempting to observe the same students in more than one class because behaviors are recognized with less difficulty. Several students were observed in different classes and they seemed to have embraced the BL instruction in each class, which helped them better grasp the academic concepts presented. Students in each class observed also demonstrated perceptible instances of both self-efficacy and self-advocacy in the classes.

Following Creswell's (2018) recommendation, the field note page had two columns. One column was used for general comments and the other for insightful reflections. Saldaña (2016)

also endorses the use of columns for field notes, but his columns are for observation data, initial coding, and final code identification. A page was also included for each classroom where a picture was drawn to capture the classroom design. As recommended by Baxter and Jack (2008), field notes were collected during the classroom observations to track the specific instances of students' ability to grasp academic concepts, self-advocacy, and self-efficacy amongst the students. These were sorted in an effort to determine if there could be a connection between the students' BL experiences and evidence of students' ability to grasp academic concepts, self-advocacy, and self-efficacy.

Data Analysis Procedures

Adu (2013) pointed out that the key to successful qualitative analysis coding of data is to maintain the essence of the information collected in order to understand the commonalities. The use of all three data collection methods resulted in a significant amount of information, some of which was nonverbal communication. Sagoe's (2012) recommendation that the researcher takes video and audio recordings and transcribe their contents as quickly as possible also noting any relevant nonverbal communications or actions seen or included in the notes during the interviews was followed. Together this information was used "as basic data for analysis" (Sagoe, 2012, p. 11). Creswell (2018) warned researchers not to begin analyzing data "without first understanding their core concept or idea" (p. 48). With that in mind, this study's research questions were the filter through which all the data was analyzed.

The coding analysis was completed using an Excel spreadsheet where the participants were entered by row and their associated data was entered in columns. Doing so enabled for various sorting to be conducted. For example, this made it possible to quickly group teachers by different subject matter to determine if any similarities or differences were found from within

each group or between different subjects taught. Another sorting was conducted by sorting responses and observations and analyzing the connected administrators' and teachers' responses with observations collected in the classrooms.

This work of analyzing between participants is the same type of thematic analysis Attard and Coulson (2012) performed with their research study. Doing so "allowed an in depth description of patterns within the data to be identified" (p. 501). The first step was to review each of the transcripts and field notes to ensure a deep familiarity with the data (Maguire & Delahunt, 2017). One such finding that appeared from this step was communication from the science and social studies teachers about the lack of available devices for their classrooms. While this is not a problem associated with the three-station BL model, it does indicate an issue with the implementation of the model at Hazleton. Eventually, six themes—including the lack of devices—emerged through this coding analysis.

In the initial stage of coding, some additional notations were made in the column of the code to help classify the degree of specific perception. The data was then compared with the research questions to ensure the data was sorted into categories that aligned with the study's purpose. Saldaña (2016) wrote that coding is not simply an act of analyzing and condensing the data collected, but specific codes should be assigned to allow for a deeper understanding of the collected data. The result of each act of coding could "summarize, distill, or condense" (p. 5) the information from "individual interviews, focus groups, and participant observations" (p. 100).

The next phase of coding was to review each of the responses, comments, and observation details by research question. The main idea was then highlighted. The final step in the coding process was then performed using the type Saldaña (2016) described as "Evaluation Coding" (p. 97) to allow for use of descriptive and comparison words. Not pre-selecting the

specific codes used, or using "open coding" (Maguire & Delahunt, 2017, p. 3355), allowed for the data to help create the specific codes. those main ideas were summarized into a one or two word description. That coding which emerged was Increased, Decreased, Unsure, Varies, and No Change.

Limitations of the Research Design

A primary limitation to this study was the absence of any quantitative data, which would have offered a subjective data source to use against the objective data in this study. If that was the methodology chosen, the logical solution would have been to have utilized a mixed-method research approach. The leading factor for limiting the scope to a qualitative analysis was to allow the participants' varied experiences and approaches to their BL implementation at Hazleton to frame the study and results. As this could be seen as a potential limitation for the results, it was vital to gain the participation of as many certified staff as possible ensuring full representation was secured of participant age, content taught, and years of experience because each imparts its own contribution to the participants' objective reflections.

Another limitation for this study was with the answers given in the focus group discussion and interviews. It is possible participants adjusted their answers to reflect more positively on the school rather than be more truthful. The triangulation that the classroom observations afforded helped validate that the answers given were legitimate because they did reflect what was seen. Triangulation was accomplished by comparing the teacher responses with the observation data in their classrooms. Those data pieces was then compared to the responses from the administrators. The observation data was then studied in comparison with the responses from teachers and administers. Stake (1995) incorporated the explanation of how ships navigate using at least three references in order to ensure accuracy. In the same reasoning, the three

sources of data from this study should also result in determining a specific theoretical point of connection with each theme that emerged through the answers and observation field notes. Science and social studies teachers whose classes were not using devices were able to provide examples of how they did use them whenever they have access to enough working devices to implement some form of blended learning instructional model.

Omitting another possible limitation of any study focused on technology, which is students' ability to access the information, software, or websites that they use at school when they are home would be a glaring error. Those who are able to access the information and utilize the software outside of school could have an advantage of increase in grasp of the academic concepts and self-efficacy about the content over their peers who cannot access the same information and software. While the BL model at Hazleton does not require students to access the BL information or software outside of school, but it is an option if they do have access, the unknown is how many have the ability to access it at home. Hazleton Middle School currently has just under one device for every three students, which suits the three-station rotation model of BL perfectly except the devices have been assigned to the ELA and mathematics classrooms on a 1:1 student to device ratio meaning the other subjects either have very few devices or iPads that teachers find do not meet their instructional needs. This has resulted in additional challenges for science and social studies teachers to regularly conduct the three-station rotation model of BL in their classes, but they are managing to do so by working with their ELA and mathematics peers to share devices when possible.

The school has also been able to provide all students access to reading and mathematics software programs, a school email, access to Google Drive with all the applications, and an online classroom website called Schoology. While not required to interact with the technology

from home, despite all of these being accessible anywhere with an Internet connection, student access to these software programs is significantly limited in most of our students' homes because of availability of both devices and consistent Internet access. Because of that, the level of potential impact teachers and administrators could perceive regarding student growth in academic grasp of concepts, self-efficacy, and self-advocacy could be affected negatively for those who do not have access outside of the school.

Validation

The research method and plan for data collection enabled a quality assessment of the research questions and thesis for the study. Creswell (2018) stated "'validation' in qualitative research [is] an attempt to assess the 'accuracy' of the findings" (p. 259). This was facilitated through the triangulation of the data from the administrator focus group discussions, teacher interviews, and classroom observations.

Another point of emphasis was to ensure the validity of the study could be obtained. Like Stake (1995) and Yin (2014), Creswell (2018) contended that the "researcher validates the accuracy of the account using one or more of the procedures for validation, such as member checking, triangulating sources of data, or using a peer or external auditor of the account" (p. 48). Using a spreadsheet discussed above, the columns represented the different codes and the rows was where the evidence of those codes was recognized in each of the instruments. The spreadsheet facilitated the "triangulation of data" (Creswell, 2018, p. 48) described above where the three data sets were analyzed against each other. Member checking was also incorporated into the data validation to ensure the participants were able to verify their data and respond with any concerns or corrections. This was done by asking participants to review the interview notes

and transcript. A personal check-in with each participant was conducted to discuss findings and how their data contributed.

Because there was discrepancy between the two administrators who felt BL had not made a significant positive impact, despite these opinions being refuted from the teacher interviews that aligned with classroom observations. Two additional follow-up observation visits were made. One reason for the follow-up classroom observations was done with a specific focus on attempting to bring clarity to the data that did not correlate. The return visit for additional classroom observations was done also to secure more classroom observation data. During those follow-up collections, the classroom observation information was collected in the same manner as initially has been done, transcribed, and then was entered on the coding spreadsheet. This newly collected data was entered onto the spreadsheet then data was once again verified for triangulation against the other data collected. If the data sets had not corresponded with each other, the data would have remained and those discrepancies would have been included in the findings.

Yin (2014) urged researchers to ensure four validation standards are met with case studies. "Construct validity" (p. 45) is accomplished through more than a single evidentiary data source that are all connected to the purpose of this study, "internal validity" are the connections established between data sets that serve to demonstrate that occurrences "are shown to lead to other conditions, as distinguished from spurious relationships" (p. 46), "external validity" (p. 48) serves to ensure the findings would not differ if this study were to be replicated exactly at another middle school. Verification for construct validity was conducted by a review of the purpose, research questions, and methods for conducting the study. Internal validation was substantiated during the triangulation stages to ensure there was not another stated or observed

rationale for any of the perceived impacts. Another source of internal validation came from the follow-up visits where several classrooms were observed again, which enabled , an inference to made of the study's reliability because findings were similar in each of the two different visits to Hazleton Middle School. An external validation was made through a comparison of earlier studies' findings after instructional shifts had been made to a BL model that mirrored this study's findings. As with external validation where this exact study was not replicated at another school.

Another concern was whether or not student apathy could affect the final findings. This was probably the greatest worry because all the data collected could include biases from students who are apathetic to their ability to grasp academic concepts and personal growth. Such students do not take learning seriously and this would have lowered the effectiveness potential of BL results in this study because any perception regarding their knowledge growth would have been jaded if those students did not share what they know. This would have also affected the students' levels of self-advocacy and self-efficacy because it would have been unlikely that they would have applied themselves to accomplish growth. If such students were observed, they would have been closely monitored and notes would have been taken regarding any evidence that they were learning or demonstrated either self-advocacy or self-efficacy. Likewise, because these students would likely be resistant to engaging with the lessons, trying to find instructional connections with their interests would take more time in teacher preparation and planning. In all the classrooms observed, none were openly apathetic to the learning and there were only two with students who were noticeably disruptive. In both cases, these students still displayed grasp of the academic concepts and evidence of both self-efficacy and self-advocacy.

A final item regarding the validity of this study involved access to the Internet while students are away from school. All the BL software used with the students at Hazleton Middle

School is also accessible from any device anywhere there is an Internet connection. The lack of Internet and devices for many of the students whose families have a lower socioeconomic status at their homes could result in a perception that BL has not had as great an impact upon them as students whose families have the financial resources to have devices and Internet access at home.

While still concerned about this disenfranchisement, there are avenues for these students to have access outside the classroom. Hazleton Middle School has open computer labs before school and at lunch where students can surf the Internet, work on class assignments, and work on BL software. There are several teachers who also open their rooms and devices for the same usage before and after school as well as at lunch. The city also has two libraries with free computer access. Transportation to and from a library is another concern, but there is an agreement between the school district and the city where all students in the district can ride the city buses for free.

Credibility. The first step of ensuring credible results from the three instruments used to collect this study's data came from Creswell's (2018) recommendation that "the researcher [seeks out any…] recurring behaviors or actions and considers disconfirming evidence and contrary interpretations" (p. 256). The data, including nonverbal communication from the administrative focus group and teacher interviews provided an opportunity for that initial data to serve for comparison. Examples of such nonverbal communication are facial expressions; movements of arms, head, hands, or legs; or shoulder shrugs. If any of the staff members' words did not match their nonverbal signs, it would have been noted and analyzed. All staff were excited about the opportunity they have to incorporate BL into their instruction and at no time was any nonverbal sign noted to be different from statements given.

A comparison of any such issues would have taken place in the classroom observations. For instance, a field note for close classroom observation would have been made if a teacher were to claim the students demonstrate an ability to grasp academic concepts, self-advocacy, or self-efficacy attributed to the BL instruction, yet that teacher was unable to provide examples of a connection while communicating the veracity of this point nonverbally with a doubting countenance or actions. That teacher's response would have been highly questionable, so comparing the data would have helped increase the dependability of the data and the findings from that data by demonstrating where one claim supports another. This was not the case as there were no questionable nonverbal communications made during the classroom observations that brought into question statements given in those or any of the settings.

Carter, Bryant-Lukosius, DiCenso, Blythe, and Neville (2014) stated that data source triangulation is one method for validating data for a qualitative study to help ensure the results are credible. Triangulation was conducted by comparing the data in the spreadsheet vertically to check if the data from the instruments aligned. If teachers responded in an interview with a high level of agreement that their "students have embraced the blended learning instruction," yet students in their classes did not appear to have grasped the learning objectives in observations, the credibility of the answers to that particular question could have been in doubt. It would have been an instance like this that would have necessitated a follow-up observation and interview with administrative staff with available assessment data to help determine the credibility of the teachers' responses to that question. It could have been a case, however, like was the case with the administrators where there were differences in option of what one perceived.

Another manner of triangulation came by comparing the administrative focus group and teacher interview data with classroom observations in terms of student engagement and levels of

student self-efficacy. Comparing staff and administrator results was a final method for triangulating the data from the interviews, focus group discussionss, and observations for validation. Again, if the results did not match, subsequent observations and/or interviews would have been conducted until either credibility for all the instruments' data could have been validated or it was clear adults' perceptions either did not match each other or with what the students are accomplishing. Before the study, it seemed that it would be very interesting if the adults' perceptions did not match each other because that could have meant the groups were not recognizing the same impacts. The fact that two of the administrators did not perceive what most everyone else did was in fact very interesting and an important finding. Despite asking why they felt there were differences in their perceptions, they were unable to ascertain why, only that those thoughts were what they believed to be true.

Dependability. It is vital that a study be relevant during the research period and for publication, but what makes it dependable is when a study remains so years after. On dependability, Creswell (2018) stated it is vital that findings from a study will withstand the inevitable introduction of both change and instability. This statement is especially relevant in an educational setting where repeated pendulum swings, a multitude of program implementations, and a legitimate impatience from stakeholders and community members to finally see increases in student performance can have negative consequences on school staff members many of whom work hard to support their students. Technology will also continue to change in improvements, capability, and adaptations. The degree of technological capability found in a 1975 IBM personal computer that came with 64 kilobytes of storage, weighed about 50 pounds, and cost almost $20,000 (IBM, n.d., para 1) is far surpassed in a 2019 Apple Watch Series 4 that can have 16 gigobytes of storage, weigh under 50 grams, and cost $400 (Apple, 2019, section 3). Processing

speeds and software designs have increased in similar proportions. The technological advances in classroom applications will continue a similar trajectory. Recognizing that and Creswell's (2018) advise that researchers maintain "an understanding of contextual features and their influence on participants' experiences" (p. 44), it was important that this study was broad enough to allow the Hazleton staff members to merge the next technological advances with their pedagogical approaches to ensure they are making every effort to best reach their students' academic and personal needs.

With dependability in mind, the research questions and format for the interviews and focus group discussion were structured in order to find how BL can be seen as effective through the test of time. The one concern with technological advances is that academia could lose sight of the most important component of the learning cycle: the student. There will always be an element of change within a school setting, but the information here will withstand these as well as technology's newest trends, developments, and interfaces.

Expected Findings

Based on the literature review presented in chapter two, the expected findings to the research questions were that Hazleton Middle School's teachers and administrators would perceive positive impacts from their instructional shift to BL from more traditional lecture or grouping of students for both students and teachers. The potential cost to the success of future generations is too precious for schools to resist incorporating available technological advances and their staff's ability to better assist students. It was hopeful that the data collected from all three instruments would be similar. The discrepancies between data sets that remain at the conclusion of this study will enable Hazleton stakeholders to have honest discussions about their

perceptions and present their own data and information to each other so together they can make shifts in their instructional plans as they see fit to best meet the needs of their students.

Ethical Issues

Creswell (2018) advises researchers "to anticipate and plan for potential ethical issues" (p. 42) that can appear at any time. The anticipation of potential issues of ethics had been taken very seriously by the researcher and Hazleton administration throughout the entire process leading up to beginning the actual research process for this study. Determining if there was a better way to increase students' ability to grasp academic concepts and their development of self-efficacy while decreasing the amount of time teachers devote to planning lessons is far too important than to engage in anything that would threaten the potential findings or recommendations that come from this study. Once the plans for the study were in place, the Institutional Review Board (IRB) reviewed them and granted approval for the study to proceed.

Conflict of interest assessment. This study focused on administrators, teachers, and students at Hazleton Middle School that is within a school district in which the researcher has been an administrator since 2013. A potential conflict could be the established working relationships with Hazleton's administrators and staff, but the absence of this researcher serving at Hazleton in an evaluative role for any of the Hazleton staff diminishes that potential conflict. Another potential issue was the fact that the students in this district are highly mobile and some siblings are split between different schools at the same level. It is commonplace for siblings to attend different middle or high schools within the district, so it was likely some students and the researcher would know each other. Fortunately, there were no acquaintances realized amongst students. One reason for this mobility is the presence of specialized programs at different schools such as a Robotics, band and orchestra, STEAM (Science, Technology, Engineering, Arts, and

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Mathematics), specialized ESS programs, and IB (International Baccalaureate). The district also enables parents to open enroll their children into any school of their choosing throughout the year, so some students may attend multiple schools at their particular level during a given year. I received written permission from the school principal and superintendent of schools to conduct the study at Hazleton Middle School.

Researcher's position. One issue considered was that this researcher has worked for the past nine years as an administrator of high schools and is currently an assistant principal at a different middle school in the same district as Hazleton. There are no teachers or other staff shared between schools, so this researcher is not evaluating any of the Hazleton staff. Not being in a position of providing direct instruction to students does not diminish most administrators' voices on instructional matters because they engage teachers, instructional coaches, and other stakeholders in discussions and decisions about instructional choices, materials, and methods. They also assist students with their assignments and content-related questions. The work as teacher evaluators also leads to direct engagement on instructional design and choices from a classroom level. These roles of administrators as instructional leaders enable us to contribute to decisions and make findings based on data and observations at the classroom level.

Ethical issues in the study. Several ethical issues did exist for this study that could have affected the data collected for this study. The primary concern is anonymity of students and teachers. Being that the three administrators participated together in a focus group discussion means each will know the others' perceptions to the research questions. That said, all efforts were made to maintain confidentiality of the data collected from the discussion with them. One effort to this end was that each administrator was identified in the research by a unique, gender

neutral first name to make identification more challenging. Their real initials were replaced in the Word document during transcription away from the school.

The teacher interviews were conducted individually, so their perceptions were kept confidential within the study. To better ensure none of the teachers can be identified, Word documents were saved with file names that do not identify them and closed before the next interview or before having left the room. While their names were logged in the data collection and interview field notes, like the administrators, each teacher's identity in the documents were exchanged in the research to a unique, gender neutral first name to make identification more challenging. Following Creswell's (2018) advice to safeguard the anonymity of the participants, the pseudonym replaced each teacher's name during transcription after leaving the school. There is always a chance someone could infer one of the teacher's identity by quotes or claims attributed to the pseudonym used. The information about protecting their identities were shared in the invitations to the interviews and before each interview began.

During the classroom observations, the real teacher's name was included on the Word document used to collect the field note data, but that was changed to that teacher's pseudonym during the transcription stage away from the school, so no one within the school could learn the connection between specific teacher and pseudonym. In a similar fashion, students had their identities protected most because their real names were never collected in this study's field notes. If any were documented individually, they would have had a pseudonym assigned to them and that name would have been utilized from the beginning. A single pseudonym would have followed each student from classroom to classroom through all observations, which might allow for observable data between classes. Despite only three students standing out in the classroom

observations, they were never even identified with a pseudonym in the field notes, data analysis, or final report.

Chapter 3 Summary

Previous research has found transforming the instructional model to one based on BL can have a positive result for students and teachers. The goal was to use a qualitative, single case study to determine if the perceptions of Hazleton administrators and teachers were consistent with the prevailing literature about implementation of blended learning a year after Hazleton Middle School stakeholders shifted their instructional model within English Language Arts and mathematics classes from a more traditional lecture approach to a three-station rotation model of blended learning.

A focus group discussion with the three administrators, individual interviews with teachers, and classroom observations were the three instruments used to collect data specific to the research questions. Field data notes were used to document the perceptions regarding students' ability to grasp academic concepts and any changes in their self-advocacy and self-efficacy. Additional data was collected about how the administrators and teachers feel about the impact on teacher preparation and planning time following the instructional shift. The resulting data provided an ample amount of information to answer each of the research questions.

Introduction

As technological advances continue to infiltrate every aspect of life from vehicles to refrigerators to operating rooms, this case study was conducted to present the impacts technology is having in the classroom. To achieve this, Hazleton Middle School's administration and teachers were asked about their perceptions of the impacts blended learning implementation is having with students improving themselves academically and personally while also considering the amount of planning for the teachers. This study included data from classroom observations, individual teacher interviews, and a focus group discussion with the administrative team. Hazleton Middle School is a sixth through eighth grade campus where blended learning officially launched building wide the end of February 2017. In its second year of implementation, teachers have had some time to experiment with different approaches to implementation, but most have found that some form of station rotation works best for them. Devices have been used at Hazleton before 2017, so some Hazleton teachers have had more experience with blended learning than others. Another influence in the implementation is how long each teacher has taught at Hazleton and if those with previous teaching experience used blended learning before coming to Hazleton.

Description of the Sample

Each teacher in the 16 classrooms observed for this study was interviewed. The original plan was to interview and observe the classrooms of at least 12 teachers who have implemented a three-station rotational model of BL at Hazleton Middle, but it was possible to include four more teachers. A second observation was conducted to observe classes who had not been engaged in BL instruction. There was also a focus group discussion with the three Hazleton administrators.

The vast majority of the certified staffing at Hazleton are Caucasian, but all races employed were included in this survey. A range of ages, contents taught, and years of experience among participants was also verified to provide a more reliable and valid collection of data from the collective staff at Hazleton. All precautions noted in the ethics section were followed to best ensure the identities of the administrators and teachers were protected. This included using pseudonyms for the school, teachers, and administrators. No student names were ever collected during the study collection nor used in the report.

Research Methodology and Analysis

This study's research questions served as the filter through which all the data was collected. After collection, the data was reviewed, transcribed, then coded for analysis as Saldaña (2016), Adu (2013), Creswell (2018), Mapotse (2015), and Sagoe (2012) recommended in their writings. Before a researcher would begin to analyze, Mapotse (2015) advised to sort the data into meaningful categories. This was a step to ensure data analyis did not begin "without first understanding their core concept or idea" (Creswell, 2018, p. 48). Sagoe (2012) wrote when analyzing the researcher should interpret the data and seek "themes or perspectives" (p. 12) discovered. The self-efficacy theory guided the interpretation of data and establishing themes.

The data was sorted following an example Saldaña (2016) described, after which the coding was completed manually. This was done using an Excel spreadsheet where participants were entered by row and their data for each research question was entered in columns. Emergent codes were tracked in a row between participants and under each participant's data. Recording the data for the classroom observations was mirrored in the same fashion from each classroom. By doing so, the data was condensed into patterns so deeper and more focused analysis could

begin, which Saldaña (2016) explained leads to emergent themes and then to the development of theories or claims.

The next step for deeper analysis was to sort the data using the code. This was done for each of the research questions by the administrators, each teacher, then the observation data. Because the observation data followed the sorting of codes, this enabled for triangulation of the data. This has been explained previously, but triangulation was accomplished by comparing the differing data sets and responses with each other. Then the data was analyzed to construct patterns that emerged between a teacher's responses and classroom observation data collected while also connecting the administrators' perceptions to both.

Summary of the Findings

The answers and discussion captured with the teachers and administrators at Hazleton Middle School framed with the five research questions provided insight into their perceptions about the effectiveness of blended learning. The research questions also provided guidance for the classroom observations. The codes from responses and observation data were analyzed and the emergence of the five major themes appeared: academic conceptual grasp, self-advocacy, self-efficacy, engagement, and teacher preparation time. While these are connected to the questions, the questions did not determine the themes. This was evidenced after an unexpected sixth theme, device appropriation, also appeared during the data analysis. The connection most made in terms of how interdependent each of the themes is for success with the others was fascinating. Hazleton science teacher Finley stated, "If, and that is the primary factor, students are engaged, they will absolutely increase their level of self-advocacy and instructional academic gains." The classroom observations did not present perceptible data to conflict with what the perceptions of the teachers. There was a perceptible number of students who were able to

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connect with the academic concepts of the day, but it seemed this was more so the case with students who were using devices in conjunction to discussion and other work than in classes without devices and classes where each student had a device and there was no rotation.

The three administrators responded in a focus group discussion format to the same questions as the teachers, only the focus was from their perspective about their students and teachers. Their perceptions were varied in the focus group discussion. Stake (1995) commented on the importance for the researcher to maintain the "multiple realities" (p. 12) that present themselves from the difference of people's perceptions. The administrators presented examples for their particular stance on each issue, which provided more validity to what they perceived with each question because none of them answered based on what another stated. Saldaña (2016) noted that some emerging data in qualitative studies will be best coded in terms normally reserved for quantitative studies, which are "symbolic summaries of a measured outcome" (p. 26). This was especially true with the data from the administrators focus group discussion.

Summary of Theme 1: Academic conceptual grasp. "Students are more well-rounded and take responsibility for their learning" is the perception of Harper who teaches math. In each of the interviews and focus group discussion, the clear focus for all was on how students are grasping academic concepts. There were several teachers who were unsure of a clear improvement connected to blended learning and only one administrator felt the same. Olivier et al. (2018) expressed that within the self-efficacy theory, the first step towards students increasing their self-efficacy and then themselves is through academic success.

Summary of Theme 2: Self-advocacy. Dakota, a mathematics teacher, has the perception that "self-advocacy is generally easier for students in a three-station model because students are able to ask questions of their peers before needing to go to the teacher." Once

students begin to increase their learning, they have an increase in self-efficacy. Using Bandura's (2012) logic, this leads to students beginning to feel more comfortable in seeking assistance with their needs for future growth and successes.

Summary of Theme 3: Self-efficacy. With an increase in grasp of academic concepts and their self-advocacy, according to the self-efficacy theory, students will begin to believe in themselves more. Shively, who teaches mathematics stated that "students are slowly learning to embrace 'productive struggle,' but that it's hard to shake off years of self-doubt." This teacher continued that stations provide the opportunity for students to work on their own with concepts that are above their academic level, which is challenging. The uniqueness is that they are responsible for grasping it on their own or asking for help instead of allowing the teacher to present all the steps in a more traditional approach.

Summary of Theme 4: Engagement. Another mathematics teacher, Taylor, pointed out that the curriculum they have and ability to assign projects through it has definitely increased levels of student engagement. Tang and Chaw (2016) made a strong connection between heightened levels of student engagement and the digital resources available. The more students are engaged with and focused on their learning the more capable they will be to ask pertinent questions when stuck. Grasp of content is more likely to occur when students are engaged in the curriculum rather than games or YouTube while using devices.

Summary of Theme 5: Teacher preparation time. There is no student connection between the amount of time and effort teachers exert in preparing for lessons, but as students grasp academic concepts and find increases in both self-efficacy and self-advocacy, the specific focus is likely to shift. Blake, who teaches ELA, has recognized that "preparation time has decreased with blended learning, but more specifically because the curriculum is all online and

built for us." Having curriculum ready for teachers removes the time they would normally expend searching the Internet or other resources for materials.

Summary of Theme 6: Device appropriation. A sixth theme, device appropriation, appeared as a result of the school's inability to fully implement the program due to a lack of appropriate devices and how the devices the school does have were allocated. Together, the manner in which devices were appropriated influenced the data because of how teachers are using their technology in their classroom. This came to light in my conversations with the teachers and was observed during classroom observations.

Levels of student self-advocacy were very high in each of the classes. Students did not appear apprehensive about asking for help or contributing to discussions. There was only one student who did not speak up to answer a question, but he did share his answer with his group so another member could share. There was an equally high recognition of students' levels of self-efficacy. Very few students demonstrated doubt in their abilities or understanding.

Presentation of the Data and Results

The themes originated from the five research questions, which were:

RQ1. How do teachers and administrators perceive the impact of a three-station rotation model of blended learning on student ability to grasp academic concepts?

RQ2. How do teachers and administrators perceive the impact of a three-station rotation model of blended learning on student development of self-advocacy skills?

RQ3. How do teachers and administrators perceive the impact of a three-station rotation model of blended learning on student development of self-efficacy skills?

RQ4. How do teachers and administrators perceive the impact of a three-station rotation model of blended learning on student classroom engagement?

RQ5. How do teachers and administrators perceive the impact of a three-station rotation model of blended learning on teacher preparation time?

Theme 1: Academic conceptual grasp. Of the sixteen teachers, eleven perceived an increase in academic conceptual ability, two felt there has been no change and three were unsure. The two who have not seen a change are both science or social studies teachers who struggle finding devices to implement BL more regularly, so their perceptions come through more minimal use of station rotations and many times using devices that the teachers do not feel are adequate. Of those who are unsure about the impact to students' ability to grasp academic concepts is a mathematics, an ELA, and a technology teacher all of whom use devices at least four days each week. There was no manner in which to validate a growth in academic conceptual grasp from the classroom observations. The observation findings reflect only what was documented from the classroom observation. Figure 1 demonstrates the results from data analysis aligned with the academic conceptual grasp data collected.
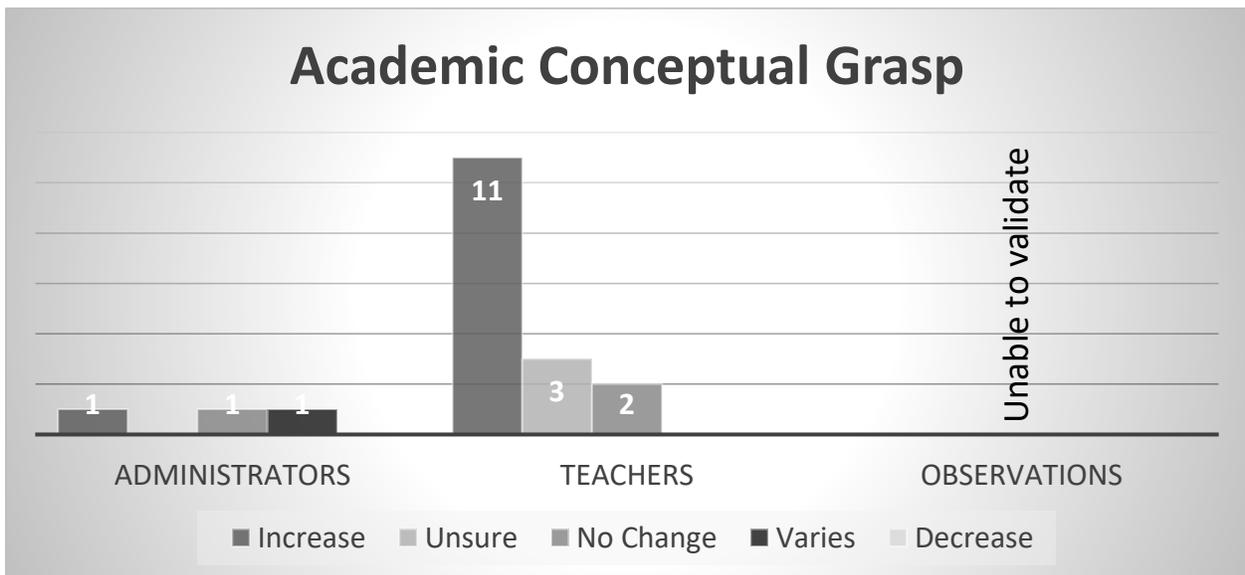

Figure 1. Theme 1: Academic conceptual grasp.

Whether it comes through a model of blended learning or more traditional teacher led instruction, manipulating academic efforts to help students become more confident in abilities

should be a focus. Overall, the data collected presents a strong case that blended learning instruction that places devices into students' hands for learning and includes station rotations, should be a goal for instructional design. Indeed, as Harper noted, increases in students' ability to grasp academic concepts will lead to "students [who] are more well-rounded." Another teacher, Finley, noted that the "skills [developed through blended learning] result in an improved overall learner."

Specifically, most teachers interviewed highlighted the adoption of blended learning instruction as a reason for their perception that students had increased their ability to grasp academic concepts. Dakota claimed that "a three-station rotation model does provide students a greater opportunity to grasp academic concepts." Another teacher, Sidney, stated the blended learning adoption "has helped students increase their academic achievement." In classroom observations, students who were using devices were engaged with the lesson or academic task assigned. There were times they would chat with each other while working, but the level of engagement with the instructional materials was far higher than in classes where devices were not being used.

While students were engaged in the four classes without devices that were using variations of rotating group work, the level of off topic chatting or teasing each other was far greater than their engagement with the instructional assignment. In a science classroom, students would alternate between group and individual work. The tendency amongst some groups was to delay answering questions until Jordan provided guidance or had them return to individual work time to re-read the materials. In other classrooms, observable data classified under the academic conceptual grasp theme included a mathematics class where students were tasked to calculate the area. Most followed the prescribed steps, but one student even found a different way to find the

area. Instead of scolding that student or preventing the student from finishing the thought, Taylor, encouraged the student to continue and allowed other students to ask their own clarifying questions.

In another mathematics class, students were working diligently in station rotations with devices and while questions were asked of peers and their teacher, Shively, the statement, "I don't get it" was never used. This comment was never heard used during any of the classroom observations, which some recognize can be a comment of defeat. That is was not mentioned like that and when students did ask questions they were phrased specifically to guide them. An example was in Harper's class a student asked for a clue to help solve a challenging perimeter question. In response to a question "Tatum" presented in an ELA class to identify different text features, many students answered with: "title, captions, bolded words, annotations, text formatting, number of paragraphs, informational article." This class was not using devices at the time, but normally uses them three or four times each week.

Those doubtful of the impact that blended learning has had on students grasping academic concepts included Sawyer, a social studies teacher who stated, "I do not believe students are learning any more with blended learning than they did in a more traditional environment. The primary reason for this is they are so easily distracted by the games and many other off task activities." Hazleton science teacher Jordan also has not perceived a change in this theme, but explained the reason why is that "my students try to avoid critical thinking because they do not have much confidence in their own ability to think and problem solve."

The administration was split where, similar to Jessie, Kendall has concerns regarding the consistency of blended learning helping students grasp academic concepts. Chase, however, perceives increases in students' grasp of academic concepts is connected to their implementation

of blended learning. This level of differing perspectives amongst the administrative team was not the last, and while they were not able to come to agreement, they were very supportive of each other and the decision to implement the three-station rotational model of blended learning.

Theme 2: Self-advocacy. In terms of students' ability to self-advocate, all sixteen teachers perceived in an increase of students' self-advocacy and evidence of students demonstrating self-advocacy was seen in each of the classroom observations. One of the three administrators, Jessie, also disagrees with the others' perceptions about increases in students' self-advocacy stating there is no perceptible change and that "students see their digital content time as a time that they must stay on task and finish a certain number of lessons" much like any other type of instructional model seeking compliance. Kendall and Chase feel they have seen increases in how students advocate for themselves that is connected to the students working with devices in the station rotation. Kendall noted that "students seem to have a greater awareness about their instructional level relative to their grade level." Chase agreed stating the perception of increases in students' self-advocacy in how they interact with the materials and discussions with teachers and administrators. Figure 2 demonstrates the results from data analysis aligned with self-advocacy data collected.
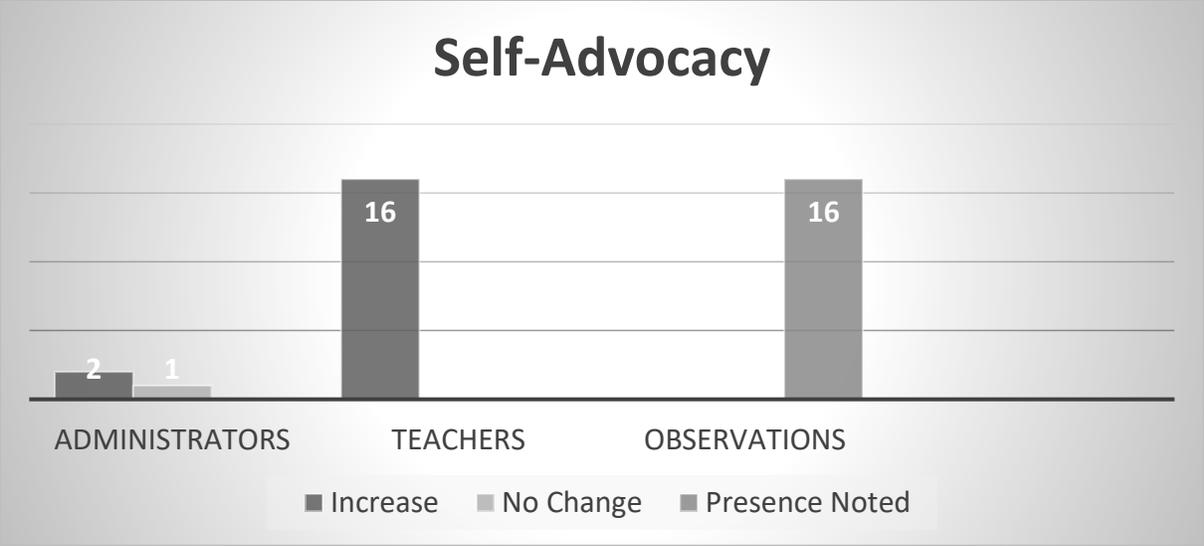
Figure 2. Theme 2: Self-advocacy.

Jessie commented, "I don't think blended learning has a profound effect on self-advocacy skills. [It seems to me that] students see their digital content time as a time that they must stay on task and finish a certain number of lessons. I have not witnessed any self-advocacy skills around blended learning." Chase, another administrator, expressed that "it's difficult to gauge self-advocacy and measure it relative to the implementation of blended learning strategies, but my opinion is that students are more confident when they grow and tend to self-advocate more when they're confident. Having more direct control over their learning and seeing the immediate feedback would seem to support this."

Such efforts were observed in Casey's technology class. The framework is a BL type class where the three stations included working on devices to research, meeting with Casey, and a station where students were able to watch clips from several movies. Casey tasked students with designing a spaceship for Mars and were also given an opportunity to construct a replacement piece of a turtle shell using Tinker CAD and a 3D printer. The students in this class were very resourceful in seeking and implementing ideas to finish their tasks using the technology available to them. In each of the classes I observed, students asked for or accepted

some form of help in. In an ELA class, a couple students gave ideas that must have been different from what Blake had in mind because of her reaction. The students noticed and two took the lead in explaining. Blake responded with excitement at the students' plan. This response mirrors the self-efficacy theory in listening to ideas presented rather than being resistant to alternative ideas.

Quinn, a social studies teacher, remarked to having "seen students more willing and able to advocate for their personal and academic needs since the shift to blended learning." Another teacher who noted similar perceptions is ELA teacher Phoenix who stated, "by working in the three-station rotation model of blended learning, students become more aware of their needs and the individualized path they must take to fulfill those needs." Meredith, another ELA teacher, commented when students are in an independent working situation, they begin to self-advocate for themselves. These three examples demonstrate how students can realize increases in their self-advocacy when learning environments are established where they can build their confidence in not only their abilities, but also in knowing their teacher will support them in asking questions and seeking the help they need to continue their learning.

Theme 3: Self-efficacy. Eleven teachers perceived an increase in the level of students' self-efficacy. One of the teachers who perceived no change in academic conceptual ability, has recognized a decrease and another did not perceive a change. A math teacher also has not recognized a change in students' self-efficacy. Morgan later told me students who before they began using devices would never raise their hand in class were sharing their ideas and interacting with their peers. In that sense, Morgan stated, "I believe that blended learning has made my students more confident." Students gaining in confidence was something that many of the teachers responded as something they have perceived has increased since adopting blended

learning as the primary instructional model. Hazleton administrators have implemented a system where they provide their teachers the type of feedback they expect teachers will also provide to their students. Chase's perception is that this feedback has aided students' development of self-efficacy. Jessie feels there has been a noticeable increase in students' self-efficacy, but attributed it mostly to the blended learning work. Kendall has recognized moments where it has, but also times when there has been no change with how students view their academic abilities because of becoming distracted with the devices in the blended learning implementation.

There were two classes where observations did not present outward evidence of self-efficacy, but there was evidence of connection to the self-efficacy theory. In Blake's class students were confident enough in themselves to advocate for an idea that was different from Blake's. Students were all engaged on their assignments and the questions asked were focused and clear. The other class where self-efficacy was less apparent was in Morgan's ELA class. Morgan, presented a concern stating, "I have mixed opinions about blended learning and the impact on self-efficacy. On one hand, I've seen some students really excel with the online curriculum, but I believe that working online can create a sense of anonymity for my students, which has been a little worrisome." Figure 3 demonstrates the results from data analysis aligned with self-efficacy data collected.
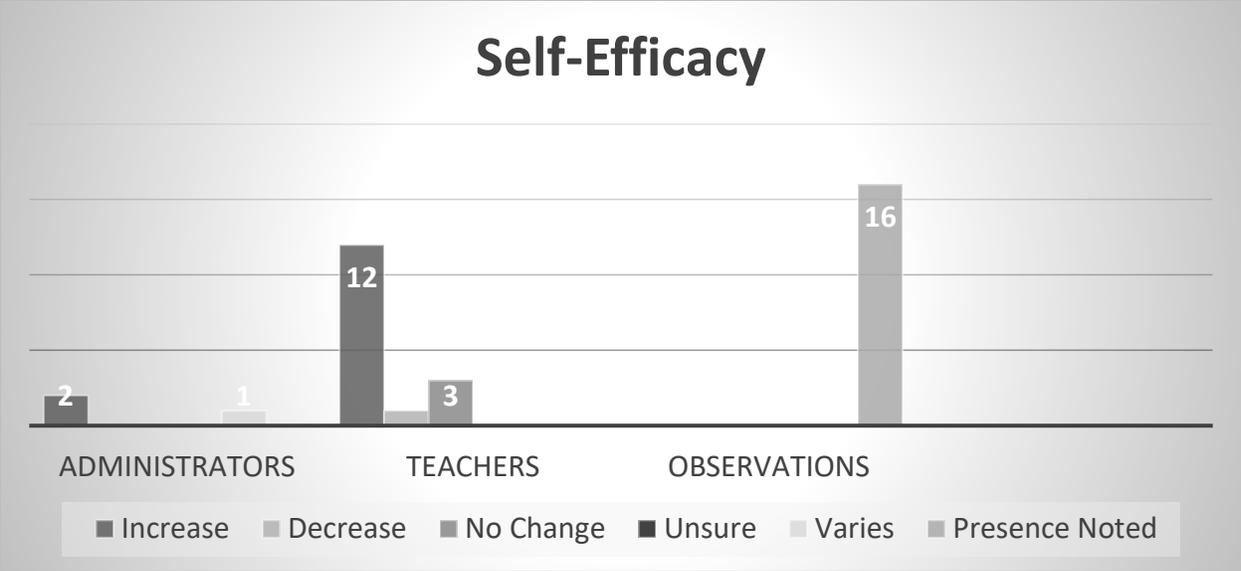
Self-Efficacy

Figure 3. Theme 3: Self-efficacy.

It is important that teachers stress to students that despite the perception that nicknames and online tools claim to hide ones identity, the ability to truly remain anonymous while online is not the norm. Rather, if students learn to communicate positively and supportive of each other, they could increase their levels of self-efficacy. The lesson on the observation day in Morgan's class was challenging for the students, but they persevered through. The self-efficacy observed came from students during the opening work where they were required to identify elements within a poem. Not all students had the correct answers, but all made an attempt and many of them offered their answers even when they verbally or nonverbally assumed the answer was incorrect.

An advantage of instruction presented in a station rotational model observed during the study is that students must interact more with the material and it is far more challenging for any single student to disappear within the class of over 30. By having to interact with the lesson and peers more, students appeared to be more willing to contribute. This interaction was far less

focused and purposeful in Morgan, Jordan, and Finley's classes where station rotations were not being used.

Theme 4: Engagement. Similar to self-advocacy, all sixteen teachers also believe students' level of engagement has increased with the implementation of blended learning. All administrators perceive students' engagement has increased with the blended learning implementation. Engagement was another area which was observed occurring even with those students who failed to remain part of the greater class.

Finley, a science teacher, commented that "the greatest benefit of a BL structure for students is the additional time for them to ask questions and make comments instead of that time being consumed by the teacher talking." While the teacher is still in charge of the class, this transfer of power, is a dynamic effect of the station rotation model of BL instruction. This result also supports the self-efficacy theory because when students have the opportunity to learn in their own way and find their voice to ask questions and become involved in what they are learning, they will increase the level of trust they have about what they will learn. To this, Dakota stated that while "student engagement can be greater in three-station rotations than in a direct instruction model, it requires a great deal of structure and supervision from the teacher. A direct instruction model is often less engaging, but creates higher compliance." Figure 4 demonstrates the results from data analysis aligned with engagement data collected.
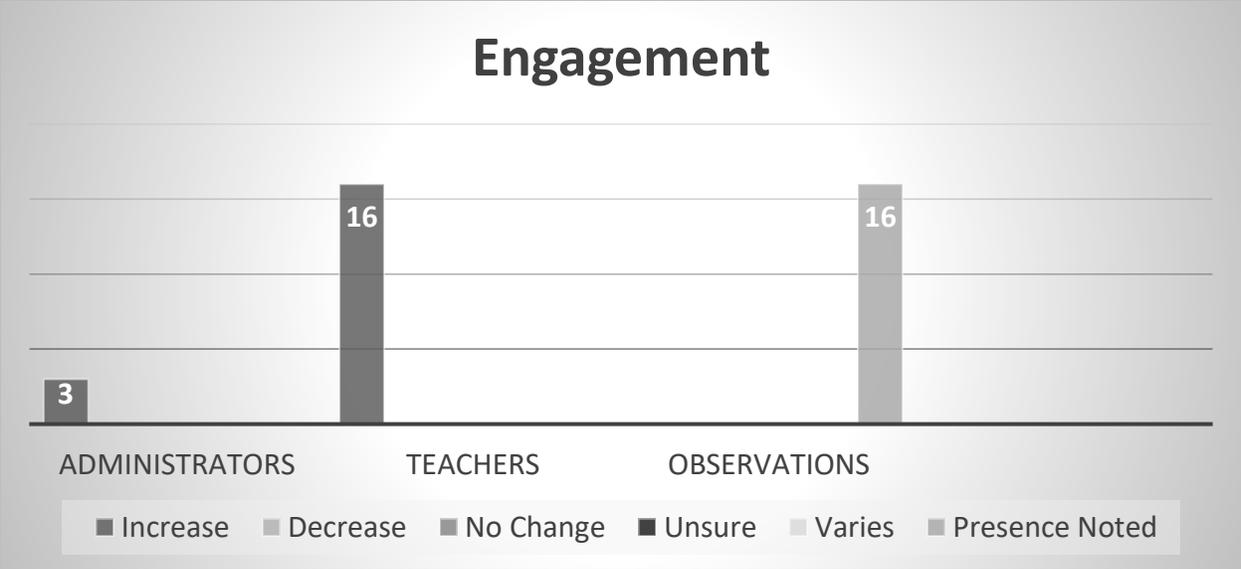
Engagement

	ADMINISTRATORS	TEACHERS	OBSERVATIONS
	3	16	16

■ Increase　■ Decrease　■ No Change　■ Unsure　■ Varies　■ Presence Noted

Figure 4. Theme 4: Engagement.

Maintaining an orderly classroom in a station rotation environment that can seem to some as being out of control despite students all being engaged in the learning because they are not sitting in rows and columns tracking the teacher who is lecturing can be a concern for some. This was expressed by several teachers who still feel there is an increase in engagement because of the BL implementation. When this topic discussed in the interview, Morgan commented that "as a second-year teacher, I would say more times rather than not my students have better behavior and are more engaged when I am incorporating the blended learning model than when I am not."

Sidney also remarked that "the switch to blended learning has seemed to help my students become more independent thinkers and helped them remain engaged far longer than before." In each class observed, every student was engaged in the lesson for at least a portion of the observation time. There were two students in separate classes who stood out as needing significantly more attention to help them better manage themselves and the teachers did a wonderful job of monitoring and restricting their movements when needed. Their peers, too,

were accepting of their unique issues and worked around them without teasing or becoming distracted from their own work.

Theme 5: Teacher preparation time. The teachers' perceptions were most varied with regard to the amount of preparation time with blended learning lessons. Six have perceived a decrease, four an increase, and another four have seen no change. Jessie does not feel teacher preparation time has improved with the shift to BL instruction. Kendall has recognized an increase and Chase, the third administrator, has perceived an overall decrease in the time it takes teachers to prepare using blended learning. The research questions and responses from teachers were reflected upon during the classroom observations where the focus was the first four research questions. There was no way to obtain perceptible data on the change in teacher preparation time. Figure 5 demonstrates the results from data analysis aligned with teacher preparation time data collected.
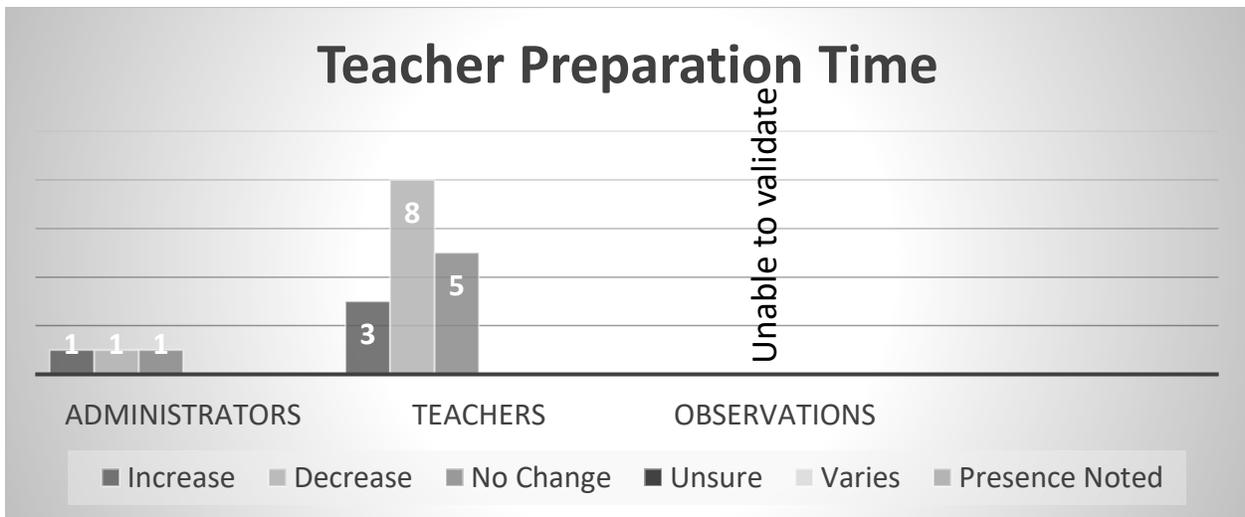

Figure 5. Theme 5: Teacher preparation time.

The learning that teachers must do in order to successfully plan for implementing a three-station blended learning instructional lesson is not something that comes easily or quickly. The preparation and setup are also not things one can do within a three-minute passing period.

Shively commented that "there is a lot of preparation for collaborative and differentiated activities, but once it's done, it feels like the overall load is lightened." There is a level of practice and experience that can only come through implementation, reflection, and modification for the next lesson. Harper stated, "Once the teacher has figured out the accountability piece of the station rotation than the planning is pretty simple. Prep work is usually pretty minimal."

The administrators were again mixed with Kendall pointing out that "if a teacher is doing blended learning correctly, there is more planning as they have access to greater amounts of data." This is very accurate in that many of the software programs can provide a significant amount of information both in terms of current ability, but also with suggested lessons and skills students could benefit if planned for a starting point in a lesson. Chase's comment in that "teachers who have put more work into setting up successful blended learning environments have had less work on the other end, both as a result of the better feedback as well as the amount of options that blended learning gives them" addresses a level of the concern Kendall expressed well. There is a wealth of data the software programs can provide, but this is also data that teachers do not have to first grade, score, and analyze as they would have had to do in an environment without the technological instructional tools.

Theme 6: Device appropriation. The emergence of this theme in the coding came as science and social studies teachers explained their frustrations with not being able to implement any form of blended learning because of a lack of devices. Since English Language Arts and mathematics classes have a Chromebook device for every student, the tradeoff is that the other subjects must make do with a ratio of about five students per device or be on a rotation with other teachers to share more devices less frequently because the school's ratio is about two students to a device.

The administrators agreed about the final theme that emerged of how teachers are using technology. They empathized with the science and social studies teachers' struggles who lost the use of devices in order to allow English Language Arts and mathematics to have a device for each student. They felt the tradeoff to give more devices to students in English Language Arts and mathematics classes was necessary to better implement the newly adopted curricula for these subjects. These are also the two most important core subjects in terms of state assessment and the accompanying school grade given, so that did contribute to the decision.

In a follow-up conversation, Chase noted they were surprised to hear how ineffective the iPads proved to be in the science and social studies classes. There was also some surprise that most of the English Language Arts and mathematics teachers are only using the devices in three-station rotations rather than each student using one. The bigger shock to the administrators was hearing that most of these teachers are only using the devices in stations three to four times per week. Chase mentioned that a discussion point will be how to shift the devices to the other classes on a planned rotation since so many are still doing three-station rotations and do not need all the devices in that environment.

This was an unexpected find, but highlights the importance of seeking ways to continually refine any policy in place. The other subjects also must find ways to use the remaining, less desirable iPads in circulation at Hazleton in some fashion. If the blended learning model has aided to increase students' grasp of academic concepts, belief in themselves, and confidence in seeking help, finding ways to either secure additional devices in the school or being more innovative in how the devices the school does have are appropriated and managed should be a high priority.

Chapter 4 Summary

The purpose of this single case study is to investigate the perceptions of teachers and administrators of the impact of a three-station rotation model of blended learning in a Colorado middle school. Across all the themes together, some participants had differing perceptions, but the majority, 75.8% of those involved in this study had the perception that an instructional model shift from a more traditional lecture based to a blended learning format adds benefits. From a better grasp of academic concepts, an understanding of how to seek help and have greater belief in their abilities, a desire to remain engaged with the curriculum longer, and a reduction in the amount of time teachers spend preparing for lessons, their perceptions are that the blended learning instructional format results in far greater student successes and growth.

The primary concern is that students found themselves easily off task from the many online distractions from social media, YouTube, games, and pornographic websites. While districts can create or purchase website blocking tools, the best item to purchase may be the computer monitor software tool for which Sawyer, a 7th grade teacher, advocated. The ability for the teacher to see each student's monitor could give many students the impetus to remain on appropriate tasks. Another excellent defense for helping students remain on task is for the teacher to closely observe students and create lesson plans that include many transitions so students do not find themselves bored.

One of the greatest examples of students showcasing each of the research themes and internalization of the self-efficacy theory came in Casey's technology class. The teacher's veterinarian brought a turtle to the class to see if the students would be interested and possibly able to help by using their available technology to reconstruct the shell piece that broke off after it had been struck by a car. Casey reported how the students' interest was immediately perked

and they began peppering the veterinarian with questions. The questions started general and shallow, but quickly turned far more relevant. This demonstrated students' level of engagement and increase in self-efficacy and self-advocacy because they wanted to be involved and were asking thoughtful and relevant questions. One of the questions was whether the turtle's organs were now unprotected, which the veterinarian stated they were. Another student asked if the shape of the shell they would make mattered because it seemed that it would need to allow for the front leg to have free movement, which was correct.

After examining the turtle, the students first selected a peer to draw the piece they would need to create first on their Tinker CAD software. This would then allow them to transfer the image to the school's 3D printer, which they would use to print a replacement shell. Another student asked the veterinarian why, since he had the piece of the shell that broke out, could he not simply glue that back in place. The reason was that it was damaged internally so significantly that it would not be structurally sound. This connection to figuring out how to utilize the instructional materials and equipment to construct a new piece to replace the missing segment of shell demonstrates a grasp of academic concepts.

Chapter 5: Discussion and Conclusion

Introduction

The purpose of this single case study is to investigate the perceptions of teachers and administrators of the impact of a three-station rotation model of blended learning in a Colorado middle school. The study included any benefits and drawbacks realized through Hazleton Middle School's instructional shift to BL, specifically whether there was perceptible evidence that it improved students' ability to grasp academic concepts, more genuine opportunities for students to develop self-advocacy skills, engagement, and a reduction of and prioritized teacher preparation time

Data for this study included teacher interviews, a focus group discussion with the school's three administrators, and observations of twelve classrooms. The teachers and administrators were all open and excited to share their feelings and perceptions. The teachers were all also very accepting of being observed. Gaining an understanding of the credentialed adults' perceptions about the impact that BL has had on students and teachers is an important for planning next steps and refining how BL is implemented at Hazleton and other schools.

Summary of the Results

The results demonstrated that the perception of most involved in the study is that an instructional model shift from a more traditional lecture based to a BL format has many benefits for students. Whether there are time benefits for teachers is still in question. It is possible that the amount of preparation and planning time teachers expend will decrease as they gain familiarity with the structure, various programs used, and classroom management improves.

Hazleton teachers are continually revising lessons trying to deliver the best instructional package to their students. Together, they are also working on methods for maintaining an

appropriate academic focus while using the school devices. Teachers and students, however, are just learning the BL and newly adopted curricula software programs for English Language Arts and mathematics. This learning curve, and the necessity to redistribute more devices into these classrooms from the social studies and science classrooms has increased the challenges of any form of blended learning occurring in all classrooms. Despite that, most of the teachers still attempt to utilize three-stations when they have enough devices. The teachers outside of mathematics and English Language Arts are struggling in their attempts to implement three-station rotations because they do not have consistent enough access to that many devices.

Whereas the Hazleton teachers I spoke with were mostly in agreement of the positive perceptions they have seen in terms of the research questions, their three administrators had mixed feelings about its benefits thus far. An increase in student engagement is the only theme they all agreed has increased with the transition to BL. They also mostly agreed that there has been an increase in their students' levels of self-efficacy, with Kendall feeling it is not consistent enough and some aspects might not be related to BL and because of the high level of "internal motivation" required with BL. The three disagreed the most in terms of the time teachers spend with planning and preparing for their lessons, but all stressed that their teachers are all working very hard to reach the academic and personal needs of each student.

The classroom observation data was very closely connected to the perceptions of the teachers presented in the interviews thus confirming their perceptions. These did not provide an opportunity to gauge the difference in teacher preparation and plan time. There was clear evidence that students understood the majority of the academic concepts presented. When confusion did arise, students worked together to find meaning then would rely on their teacher to guide them toward an understanding. At no time did any of the teachers just give students

answers, and the students did not beg for them either. This demonstrated that the expectation within Hazleton Middle School is that the students will use their resources to clarify confusions they have and when teachers do have to provide intervention, they will not simply give away answers.

Related to their level of self-efficacy is the level of self-advocacy the Hazleton students presented. It seems reasonable to believed that because they were comfortable with the general conceptual knowledge, they were able to seek help from peers then their teachers. Phillips, Watkins, and Hammer (2018) explained in their study that "it is […] valuable and often essential to identify and articulate gaps and inconsistencies in the current state of knowledge, before having a clear sense of how to fill or resolve them" (p. 993). In alignment with the self-efficacy theory, students would likely be less likely to even consider asking questions until they have some level of understanding or success in the content where there are concepts they are not grasping, which is required in order to construct relevant questions (Phillips et al., 2018).

Students demonstrated a high level of engagement with the instructional activities in each of the classrooms visited. It is often obvious if classrooms are prepared for a visit and in most cases, a student will make a statement or pose a rhetorical question highlighting the fact they had advance notification. This did not happen in any of the classrooms on either of the days visited. When observing students on devices—especially when the screens were positioned where the teacher could not see it with a glance, there were only a few times when students were observed off task and at no time did anything inappropriately violent or sexual appear. The visited site in each case was YouTube and only once was the student just browsing videos. Each of the other students were searching for an artist or genre of music before returning to the instructional assignment.

Discussion of the Results

The results from this qualitative case study in terms of the perceived benefits from an instructional overhaul from a more traditional lecture based to one structured around blended learning station rotational model is varied between the teachers and their administrators. The teachers were overwhelmingly in agreement of the gains for students in terms of increasing the acquisition of academic concepts, self-advocacy and self-efficacy skills, and engagement. Their perceptions mirror those found from the classroom observations.

That said, the administrators were not in agreement with each other. One of the three was more in alignment with the teachers' perceptions and observation data while the other two had concerns about the successes they have perceived since adopting BL. Teachers were almost evenly split in terms of the time for planning and preparation after the switch to BL where six have seen a decrease in total time, four an increase, and four have seen no change. Each of the three administrators chose one of those categories too, so they too were unable to agree on whether there was a time saving benefit to the teachers.

While two of the three administrators have concerns about the effectiveness with their BL adoption, individually the teachers were excited to continue learning more about BL and refining the way they have incorporated the devices into their instructional delivery. It seemed that the two administrators who remain hesitant to fully endorse BL do so because the BL digital content is not in full alignment with the English Language Arts and mathematics curricula used and everyone is still adjusting to the newly adopted software for the curricula. One of them, Kendall, also stated a concern of "time being spent doing digital content when we could be using that time to fill gaps in learning in small groups." All of the teachers expressed confidence that they are seeing successes and even those who felt the planning and preparation is more time consuming

now, feel it is worth it because of the gains they are seeing and because they feel the time spent will balance out to equaling the time spent with traditional planning after several more years.

The greatest struggle identified in the school is the lack of devices. In working to employ station rotations, ideally there would be a ratio of at least three students to a device to allow for a seamless three-station rotation. The device type is also important because some are more optimal than others depending on the primary function or program used. Hazleton teachers and students found the conveniences and low cost of iPads are not enough to counterbalance the difficulty in typing essays and reports, even with the optional keyboard attachment. The seven-year rotational cycle the district uses for replacing devices at its schools has surpassed the ability to continue upgrading the iPad models they own. The device that the staff and students desire is the Chromebook because of its flexibility, laptop like design, the duration of available updates, and the fact that the device does not create a separate user profile account for each person who logs onto a laptop. This, and the higher cost, is the most undesirable quality of a laptop or desktop system because each new user profile slows the system down. The tradeoff of traditional laptops or desktops is they can run almost any program and can have more memory than either an iPad or Chromebook.

Another issue facing teachers at Hazleton is the distribution of devices. Their district adopted new English Language Arts and mathematics curricula both of which has an integrated device component. In order to use the material with maximum fidelity, these classrooms have a device for each student. Despite shifting all available devices from science and social studies into the English Language Arts and mathematics classrooms, these teachers have recognized the value of station rotations to the point that all but one uses a three-station rotation and the other uses a two-station rotation.

Discussion of the Results in Relation to the Literature

Adam and Nel (2009), and Franklin et al. (2015) found that BL classes were more engaging to students. This correlates exactly to all the responses from teachers and administrators. Both science teachers found their classes to be far better engaged and behaved when they were able to incorporate regular BL three-station rotations. It is also something that was perceived during the classroom observations. Students were very focused on their work while using devices and there was not much convincing from the teachers for them to arrive at that point. Even when the few students ventured onto off task websites or games, the duration was very short before they returned to being on task.

A common concern amongst most of the other teachers and administrators raised with students on devices was the challenge of keeping them on task instead of them browsing websites or playing games. During classroom observations, only one student was observed viewing You Tube videos instead of completing work. The videos were not inappropriate. There were other times when students would click off the task to find a new song to play before quickly clicking back to their instructional window. Martin (2013) found students in BL environments had greater success at controlling themselves giving their teachers more flexibility to assist students academically rather than behaviorally. This seems to be somewhat in agreement with the observation data in that students were engaged in assigned tasks the vast majority of the time, but the teachers using devices also had very good classroom management and relationships with the students. It is possible if management or relationships were not as strong students could have been more likely to have strayed away from the approved sites more often. An additional tool to help monitor this more easily would be for teachers to have monitoring software installed on their computers that would allow them to see the content on their students' monitor screens.

An increase in the ability to grasp academic concepts should come when students have greater engagement in the curriculum, an increase in students feeling that they can succeed and answer questions correctly, and more freely asking for help and clarification. Only four of those questioned felt uncertain whether growth in students' ability to grasp academic concepts had happened with the shift to BL. Means et al. (2013) and Adam and Nel (2009) found BL was a superior instructional method to secure the greatest percentage of students who understand the academic concepts being presented. The data from the sixteen teacher interviews, the focus group discussion with the three administrators, and classroom observations show a definite connection between BL instruction and the students grasp of academic concepts.

The specific type of device used is also an important component of a successful BL implementation. As Varier et al. (2017) recognized, tablet type devices are less than ideal for use in a classroom setting when compared to a laptop or Chromebook. While the former is cheaper, the latter provides a more stable and easier to use keyboard and is better equipped to handle different software programs. When the Hazleton administration decided with the school's leadership team to shift all Chromebooks into the ELA and mathematics classrooms giving students in those classes a 1:1 ratio, they did not realize how ineffective the iPads the school also owns would be at handling the needs of BL instruction in social studies and science classes. It is so bad that Finley, a science teacher, decided to stop using regular three-station rotation because the iPad devices available were inadequate for most any classroom operation other than browsing websites.

The other science classes observed, had one of the worst behaved students and like Finley, Jordan stopped regularly incorporating the available iPads for similar reasons. Francis (2012), found the connection between student interest and engagement was more likely to result

in increases in academic achievement. As Francis (2012) commented, BL instructional models do increase student engagement and is a capable instructional tool for student learning.

Most of the teachers and two of the administrators recognized an increase in students' trust and belief in themselves about their academic abilities since the shift to BL. This shift has made whole class, group, and peer to peer discussions more productive because more students are willing to take risks with answers and ideas. This connects with the research from Prior et al. (2016) who found a connection between increases in higher self-efficacy and students' ability to engage in positive "social and academic" (p. 96) efforts with each other. This was something Finley mentioned in relationship to a website that is unusable with the iPads available. The site would allow students to engage in captivating simulations that resulted in increased self-advocacy and self-efficacy because students were able to fully grasp the concepts. Johnson and Marsh (2014) noted how transformative to the learning environment technology can be.

Douglas (2004) attributed various interventions teachers created were highly responsible for the self-advocacy increases found with many of the students. Interventions discussed and observed in place at Hazleton included teacher led conferences, the use of various BL software, whole group discussions, teacher and student conferences, and student led discussions. Longo (2016) described the various ways that instruction based on BL can help students learn by providing them choice and options for interacting with the materials. With more engagement and increases in self-advocacy, students will be more likely to make better decisions academically and behaviorally with choices and options provided through the BL lessons. All of the teachers interviewed and two of the three administrators in the focus group discussion recognized a perceived increase in levels of their students' self-advocacy after the implementation of the BL instructional model. The one administrator who did not feel there has been an increase has not

noticed a recognizable change. Each classroom observed supported the stance that the shift has made an impact. Students did not seem apprehensive to ask questions. They were also very quick to offer possible solutions and help their peers who had questions.

The teachers demonstrated patience in allowing peers to attempt to assist each other. Many teachers commented that they believed the students assisting were learning the concepts more because they were thinking of them in a different way in hopes of explaining them to their peers. What was occurring with these students was like what Borthick and Jones (2000) found with students using blogs. Instead of using technology to work with each other, the Hazleton students were communicating face-to-face sometimes using their devices. Another benefit of this is what Huerta et al. (2016) discussed because as with the students in their study, the Hazleton students were using academic language even if they did so with their own tone and vernacular.

Mahar et al. (2006) presented the importance of students' physical movement to increases in their ability to grasp academic concepts. There was a greater perception of students grasping the academic concepts presented in classrooms in which students did move and were more active. Engagement was greater with the classes using station rotations than those without technology or in classrooms where students each had an individual device and there was no rotation occurring.

Limitations

The greatest limitation in this study of BL at Hazleton Middle School was being able to observe students engaging in a station rotation form of blended learning outside of ELA and mathematics classes. The instructional and assessment decision to allocate devices to the ELA and mathematics classrooms ensuring there is a device for each student and the other contents where each, less functional device is shared between five students resulted in classrooms either

with a device in each student's hands or classrooms with only a few iPads. Because of the

struggles teachers have with those devices, they feel the time they could spend planning and

implementing instruction is not worth the time. In either case, teachers at Hazleton are

continually revising lessons trying to deliver the best instructional package to their students.

A second limitation was scheduling visits around the numerous assignments,

assessments, meetings, and activities. A positive in this challenge that led to delays in

completing the data collection became a benefit because it allowed me to observe classrooms and

interact with staff two times over a period of three months. Conducting the research over a

period of time provides a greater sense that the data collected was a true sense of what happens at

Hazleton and less like a production the staff staged for a single visit.

Implication of the Results for Practice, Policy, and Theory

Based on teacher perception and classroom observations at Hazleton Middle School,

there are benefits to students' academic and personal growth with implementation of a blended

learning instructional model. A more engaged student is one who requires less management and

will be more capable of positive contributions to the class. As the ultimate goal in schools is to

increase the academic learning, most students who are more engaged will also learn more than if

they were disengaged.

This level of understanding the teachers expressed on their perceptions about the ability

for students to grasp academic concepts after the instructional shift to BL allowed students to

demonstrate the presence of self-efficacy about their academic skills, which was reflected by

their willingness and ability to answer questions. It was also reflected in students' ability to

locate answers to questions in their textbooks, notes, or online neither they nor their peers could

answer. The conversations the students had also gave the perception that they believed in their

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ability to determine the correct answer or find it if they were not able to figure it out. This ability closely aligns with the self-efficacy theory. After increases are made in confidence, students are more likely to seek out assistance.

One of the reasons Camahalan and Ruley (2014) indicated for the successes found through the use of MobyMax was the ability for the program to automatically adjust students' work and tutorials based on their performance levels. Ensuring students are working at an academic level where they are not frustrated can be a daunting task for a secondary teacher who may have a total of close to 200 students, but the software can adjust instantly based on how students are performing. The fact that this program has an embedded tutorial, which some others do as well, highlights another enormous time saver for teachers because they do not have to plan specific tutorials for groups of students. These tutorials are also student specific, so they are even better than a teacher conducting a group tutorial that meets the broad, but not student specific needs. The BL software programs, Reading Plus and Dreambox, Hazleton uses has very similar features to MobyMax.

Another implication found in the classroom observations that could positively influence future practice is that conducting station rotations with devices assists with classroom management because of the heightened engagement that comes from students using devices. Especially true when a single class size exceeds 35 students, the use of device stations allows the teacher to divide the students into smaller groups, which is easier to manage than a whole class group. Based on the classroom observations and teacher interviews, having at least one group rotate to a station with devices is important because students will be far more engaged when working with devices than if none are being used. How well the students are able to maintain an adequate level of self-control and focus during their instructional work on devices with the

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number of distractions including YouTube videos, a litany of social media sites, gaming websites, and messaging tools is a potentially significant implication for an effective BL model. Even if students are on task, teachers must instruct them about methods for evaluating the trustworthiness of resources they find on the Internet.

Bingham (2017) observed two classrooms where the students were more focused on trying to violate the school's technology agreement than making efforts to successfully complete their assignments. These students would visit YouTube and other off content sites or use their iPods to access social media then quickly click back to their instructional website when their teacher checked on them. They did this despite the teachers having digital software installed on their laptops that allowed them to observe students' computer screens to provide instructional and behavioral feedback.

In terms of integrating technology into daily practice in classrooms, there must be a sense of ownership not only with the staff, but even more so amongst the students. Bingham (2017) also stressed the importance of teachers having highly structured classroom procedures to assist with the various off task issues that integration of technological devices create. If students are not prepared with the determination and integrity required to resist the many urges while online, students' academic and personal growth potential through the devices will be negatively affected. This connects with the self-efficacy theory about risk taking after gaining self trust and confidence. This interaction aligns with the self-efficacy theory because as students gain more experience in learning and seeking help when needed, their levels of internal trust in themselves and in being able to find answers or solutions to problems they face increases also.

The amount of time teachers devote outside the classroom is another area where, despite teachers and administrators being split, many of the teachers' comments were similar Blake's

response, "My preparation time has decreased with blended learning, but more specifically because the curriculum is all online and built for us." Another teacher, Casey, responded that "the front-end planning is significantly more difficult, but once you have a repertoire of lessons in your tool kit, it definitely relieves the load." Those who have had several years of experience with this instructional method perceive a reduction in the amount of time it takes in both planning and preparation.

As with any shift in policy, it is important to be open and honest with all the variables. In the case of a shift to BL, the majority of teachers and administrators believe there has been an increase in the time it takes teachers to prepare and plan their lessons. Most, however, feel it has or will decrease after a few years of experience and collection of lessons and resources. The other policy consideration with a shift to BL instruction is device assignment. The initial plan at Hazleton, was that each classroom would have a device for every three students. The adoption of English Language Arts and mathematics curricula adoption led to modifying these plans and has had a negative effect upon the BL implementation in science and social studies classes.

One of the administrators, Chase, noted they were surprised to hear how ineffective the iPads proved to be in the science and social studies classes. The usage days for the devices that have been allocated to the English Language Arts and mathematics teachers was unforeseen. To that, Chase mentioned that a discussion point will be how to shift the devices to the other classes on a planned rotation since so many are still doing three-station rotations and do not need all the devices in that environment. This was an unexpected find, but highlights the importance of seeking ways to continually refine any policy in place.

This likely revision in device rotation and placement aligns with what Kazu and Demirkol (2014) discussed in terms of how important it is that teachers and administrators work

together. Just as effective as seeing student peers learning from each other, the issues associated with device assignment would not have been recognized as quickly if the teacher responses and classroom observations had not been shared with the administrators. By recognizing a misperception amongst the administrators about how often all of the devices were being used in the English Language arts and mathematics classes in comparison with the actual classroom observation data, it could be possible to see a shift in device allocation between the different core subjects so BL can become the daily norm for students at Hazleton.

A very positive implication observed is how well the students were able to maintain an adequate level of self-control and focus when using devices. Students did remarkably well despite the numerous distractions including YouTube videos, a litany of social media sites, gaming websites, and messaging tools. The observation data showed students had a sincere desire to use the technology available to improve their grasp of academic concepts. It did seem as if teachers and students shared a sense of ownership and responsibility with the use of technology. As Olivier et al. (2018) explained, this closely aligns with the positive implications highlighted within the self-efficacy theory because the students were better able to control urges to become distracted from their studies because of an increase in their academic abilities.

Vancouver and Purl (2017) wrote that "self-efficacy is positively related to motivation for the goal" (p. 7). While compliance is needed for management and orderly classrooms, the loss of engagement and interaction students will have in a more traditional, teacher led classroom could also negatively affect those students' development of self-efficacy if they feel the teacher's need for compliance is more important than their grasp of content. As Bandura (2012) wrote, "The stronger the self-efficacy to realize a challenging standard, the more the participants intensified their efforts" (p. 20). The ability to provide students with the opportunity to grow not only

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academically, but also socially is an important element into the self-efficacy theory. Students must learn how to manage their time and themselves appropriately and doing so in a classroom where they are able to interact with technology, which they enjoy will help train themselves at managing their time so they can feel confident in their ability to do so in other circumstances.

Recommendations for Further Research

Conducting a mixed method study that would combine the perceptions of the teachers, administrators, and classroom observations with academic growth data would be one method of further validating the perceptions noted. As was seen in the focus group discussion with Hazleton Middle School's administrative team, there are adults who do not believe blended learning is an instructional model switch that will produce the amount of academic and personal growth worthy of the monetary and time costs involved. Another aspect that would be helpful is to conduct a qualitative study with a group of teachers who taught in a lecture-based instructional model before shifting to one based on BL. If the study took place over a period of four to five years after shifting to BL, the data could be far more reliable than looking at a single year with some teachers who are brand new to the profession and never experienced preparing lessons in a lecture-based system. A final consideration would be to conduct a study focused on different BL software programs in an attempt to determine if one is superior or if differing brands return similar results on student learning.

Conclusion

There is a wealth of research and data demonstrating that transforming the instructional model to one based on BL can have a positive result for students and teachers. The purpose of this single case study is to investigate the perceptions of teachers and administrators of the impact of a three-station rotation model of blended learning in a Colorado middle school. A year

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after Hazleton Middle School stakeholders shifted their instructional model from a more traditional lecture approach to a three-station rotation model of blended learning, their perception about the shift is mostly positive.

With the continuing advancement in technology, academic software is improving teachers' ability to plan instruction that is catered specifically to meet each student's academic needs. While there could be some short term increases in teacher's plan and preparation time, research shows and some participants who began using BL before the whole school shift believe, that time sacrifice made a sharp decrease after doing BL instruction for several years.

Providing adequate funding to maintain and improve BL instruction is vital to its ongoing success. In addition to the improved software to help teachers implement and maintain a smooth-running BL program, there must be ongoing and relevant professional development training. This is especially true in a district like Hazleton's that has higher than average teacher turnover. Leaders cannot assume since something was taught a previous year that the entire staff is up to speed on it the following year. Funding must also be dedicated to the purchase of new devices. Hazleton's implementation has been hampered by an overall lack of devices for all the classrooms.

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Appendix A: Teacher Interview Questions

1. Have you incorporated blended learning into your instructional model?

   o If so,

      ▪ When did you begin?

      ▪ How many days per week?

      ▪ What software program do you use?

      ▪ Describe a lesson that had better success using BL than traditional (lecture) approach.

      ▪ Describe a lesson that had better success using traditional (lecture) approach than BL.

2. To what degree do you perceive your students have embraced the blended learning instruction?

   o Describe what this looks like.

   o What would a classroom look like when you have reached full implementation and participation?

3. In what ways do you perceive that your students are more engaged with the materials and instruction using blended learning than they were taught in a more traditional (lecture) approach?

   o Describe what this looks like.

4. In what ways do you perceive student learning been affected with the instructional shift to blended learning?

   o Engagement, focus, behavior…

5. What is your perception about how willing your students are to self-advocate in the blended learning environment than they were taught in a more traditional (lecture) approach?

   o Describe what this looks like.

   o How many students?

6. What is your perception about the level of self-efficacy skills your students have developed since you adopted blended learning or blended learning environments came to Hazleton in contrast to when they were taught in a more traditional (lecture) approach?

   o Describe what this looks like.

   o How many students?

7. What is your perception about whether your students feel more confident with their academic abilities in the blended learning environment than they were taught in a more traditional (lecture) approach?

   o Describe what this looks like.

8. What is your perception about the overall time in lesson planning and instructional design you are currently spending after incorporating BL into your instructional model contrasted with when you taught in a more traditional (lecture) approach?

   o Describe the differences.

Appendix B: **School Administrator Focus Group Discussion Questions**

1. How many English Language Arts and mathematics teachers do you believe have incorporated blended learning into their instructional model?

   o Do you believe those teachers do station rotations at least once per week?

2. To what degree do you perceive your students have embraced the blended learning instruction?

   o Describe what this looks like.

   o What would a classroom look like when you have reached full implementation and participation?

3. In what ways do you perceive that your students are more engaged with the materials and instruction using blended learning than when they were taught in a more traditional (lecture) approach?

   o Describe what this looks like.

4. In what ways do you perceive student learning been affected with the instructional shift to blended learning?

   o Engagement, focus, behavior…

5. What is your perception about how willing your students are to self-advocate in the blended learning environment than when they were taught in a more traditional (lecture) approach?

   o Describe what this looks like.

   o How many students?

   o How have your teachers assisted and guided this work?

6. What is your perception about the level of self-efficacy skills your students have developed since your teachers have adopted blended learning or blended learning environments came to Hazleton in contrast to when they were taught in a more traditional (lecture) approach?

   o Describe what this looks like.

   o How many students?

   o How have your teachers assisted and guided this work?

7. What is your perception about whether your students feel more confident with their academic abilities in the blended learning environment than they were taught in a more traditional (lecture) approach?

   o Describe what this looks like.

8. What is your perception about the overall time in lesson planning and instructional design your teachers are currently spending after incorporating BL into your instructional model contrasted with when they were teaching in a more traditional (lecture) approach?

   o Describe the differences.

Appendix C: **Classroom Observation Protocol**

The first section of field notes from each classroom observed will be a drawing of the classroom layout and method of station rotation. The hand-drawn images will be recreated on the computer similarly to what is below.

3 Station Rotational Model of BL

= Student tables   = Door   = Teacher desk
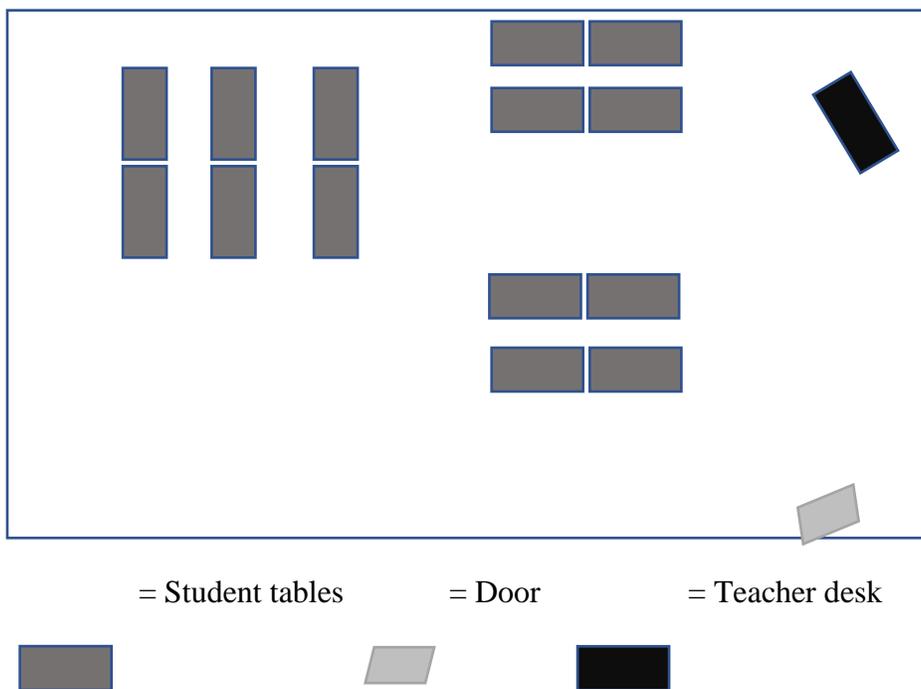
The second section of the field notes for each classroom observation will be a series of general observations about the classroom procedures, the teacher's verbal and nonverbal communications, the blended learning structure, how each station operates, and general observations about what the students are doing. These observation notes of the students will be done looking at them from the classroom and each station group as a whole, not individual students. For instance, a sample entry could be, "Despite being off task chatting in off topic discussions for five minutes of their allotted 15 minutes, the first group at the device station were

still able to fully accomplish their tasks." The number of students' questions and comments will

be documented then classified by their level of depth and perceived grasp of content.

The field note pages will have the research questions in one column with general

comments and insightful reflections as the headings for the other two columns.

Research Questions	General Comments	Insightful Reflections
1. How do teachers and administrators perceive the impact of a three-station rotation model of blended learning on student ability to grasp academic concepts?		
2. How do teachers and administrators perceive the impact of a three-station rotation model of blended learning on student development of self-advocacy skills?		
3. How do teachers and administrators perceive the impact of a three-station rotation model of blended learning on student development of self-efficacy skills?		
4. How do teachers and administrators perceive the impact of a three-station rotation model of blended learning on student classroom engagement?		
5. How do teachers and administrators perceive the impact of a three-station rotation model of blended learning on teacher preparation time?		

Appendix D: Statement of Original Work

The Concordia University Doctorate of Education Program is a collaborative community of scholar-practitioners, who seek to transform society by pursuing ethically-informed, rigorously- researched, inquiry-based projects that benefit professional, institutional, and local educational contexts. Each member of the community affirms throughout their program of study, adherence to the principles and standards outlined in the Concordia University Academic Integrity Policy. This policy states the following:

Statement of academic integrity.

> As a member of the Concordia University community, I will neither engage in fraudulent or unauthorized behaviors in the presentation and completion of my work, nor will I provide unauthorized assistance to others.

Explanations:

What does "fraudulent" mean?

> "Fraudulent" work is any material submitted for evaluation that is falsely or improperly presented as one's own. This includes, but is not limited to texts, graphics and other multi-media files appropriated from any source, including another individual, that are intentionally presented as all or part of a candidate's final work without full and complete documentation.

What is "unauthorized" assistance?

> "Unauthorized assistance" refers to any support candidates solicit in the completion of their work, that has not been either explicitly specified as appropriate by the instructor, or any assistance that is understood in the class context as inappropriate. This can include, but is not limited to:

- Use of unauthorized notes or another's work during an online test
- Use of unauthorized notes or personal assistance in an online exam setting
- Inappropriate collaboration in preparation and/or completion of a project
- Unauthorized solicitation of professional resources for the completion of the work.

Statement of Original Work (Continued)

I attest that:

1. I have read, understood, and complied with all aspects of the Concordia University–Portland Academic Integrity Policy during the development and writing of this dissertation.

2. Where information and/or materials from outside sources has been used in the production of this dissertation, all information and/or materials from outside sources has been properly referenced and all permissions required for use of the information and/or materials have been obtained, in accordance with research standards outlined in the *Publication Manual of The American Psychological Association*

David William Baker

Digital Signature

David William Baker

Name (Typed)

April 11, 2019

Date