

THE IMPACT ON STUDENT ENGAGEMENT OF TRADITIONAL LEARNING
AND HYBRID LEARNING APPROACHES.

A Dissertation Submitted to the Faculty of
Immaculata University

By

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In partial fulfillment of the
requirements for the degree of
Doctor of Education

Immaculata, Pennsylvania

June 2016

TITLE OF DISSERTATION

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Abstract

This study examined the perceptions of teachers and students regarding hybrid-learning and traditional learning as strategies for student engagement in 9th grade mathematics and science classrooms and the challenges associated with each. There were 14 teacher participants and 71 ninth grade student participants from a hybrid-learning pilot in a large southeastern Pennsylvania school district. Data were collected through the use of online surveys as well as through personal interviews with randomly selected participants from each group. The results suggest that there are differences between the teachers' and students' views of student engagement in both environments. While students felt that there was sufficient engagement in both environments, teachers feared that engagement in the hybrid environment was not strong when students were working alone or collaboratively. Since this study focused on one particular high school in southeastern Pennsylvania, the perceptions of the participants of this study may not be generalized to all teachers and students involved with hybrid-learning. However, the data reveal that students in hybrid settings perceive greater engagement in that environment, which is supported by the research. Therefore, this study may prove beneficial to current and future professionals when making decisions regarding the implementation of hybrid-learning.

Acknowledgements

I would like to express my gratitude to all those individuals who have supported me throughout my time at Immaculata and through the completion of my dissertation.

- To the entire Immaculata University, this was the perfect place for me to complete my education.
- To my chairperson, Dr. Mary Calderone, you believed in me when I found it difficult to believe in myself.
- To my committee members, Dr. Christopher Harrington and Dr. Gary Mattei, for your feedback and encouragement throughout the dissertation process.
- To my colleagues and friends, Dr. Daniel McGarry, Mr. Daniel Nerelli, Mrs. Mary Cedrone, Mrs. Christine Kelley, Mr. Christopher Pugliese, Dr. Jason Hilt, and Mrs. Eileen Hershman, for your input and unending support.
- To my wife Mara, who is the love of my life and my best friend. Your support and encouragement throughout this journey were endless. Every day I try to be more and more like you.
- To my children, Gregory, Matthew, David, and Payton. You are my greatest accomplishment in life. Your understanding of my time away from you was so critical to completing this journey.
- To my Mom and Dad, you provided me an outstanding example of what a parent should be. To my dad, for always being there for me when I needed him. To my Mom, we miss you every day; thank you for motivating me to finish. You were right...every dog has his day.

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Chapter One – Introduction

Overview

Teachers who engage students through active learning in their classrooms are more likely to witness students achieve (Swiderski, 2011). Likewise, high school instructors who employ active learning strategies in their daily lessons and assignments will find that their students' achievement levels will increase. Greenwood, Horton, and Utley (2002) argued that motivation and study skills have a direct effect on academic engagement. The best instructional practices to promote student engagement are computer-related tasks and computers are being used for instruction more often (Christensen, Horn & Johnson, 2011). Christensen et al. (2011) reported that public education enrollments in online courses have gone from 45,000 students to over one million in 2011, indicating that computer-related activities for learning are on the rise.

Rakes, Fields, and Cox (2006) discovered that there is a significant relationship between teachers' use of technology and the practice of constructivism. Constructivism is a learning theory that suggests learners create their own interpretation based on what they already understand and believe to be fact, combined with new experiences (Rakes et al., 2006). When teachers integrate technology into the classroom, a constructivist environment can exist, and student engagement occurs. Rakes et al. (2006) reported that student dissatisfaction with education has become a concern. Therefore, motivating students through the use of technology has become a common theme throughout educational settings.

Alonso, Lopez, Manrique, and Vines (2005) pointed out that the future direction of learning has been identified as *blended or hybrid-learning*. According to Helms (2014), there are numerous definitions of blended or hybrid-learning; however, all of them incorporate aspects of learning online with face-to-face instruction. Kazu and Demirkol (2014) maintained that traditional learning environments are ineffective in terms of learner participation and the ability of students to access that learning at any time anywhere. Furthermore, they indicated that the weakness of online learning is the limitations regarding face-to-face interaction and relationship building. Hybrid-learning mixes the strongest aspects of web-based learning and traditional learning approaches.

There are many models of blended learning; including hybrid-learning, technology enhanced instruction, Internet enhanced instruction, flipped classrooms, and mediated learning (Delialioğlu, 2012). Many blended learning models practice a synchronous style of delivering instruction while others use an asynchronous style. Skylar (2009) stated asynchronous online learning is the method typically used in online learning. This model provides students with the opportunity to access the information posted by the instructor at their own pace. It is not required that there be a specific day and time that the students log into the online environment.

The use of Learning Management Systems (LMS) enables students and teachers to communicate about content deeply. The LMS industry will grow from \$2.5 billion in 2013 to \$7.8 billion in 2018 (MarketsandMarkets, 2013).

Collaborative discussions can take place in these LMSs, offering instructors and

students similar opportunities for communication as in the traditional classroom (Kates, Byrd, & Haider, 2015).

In contrast, Skylar (2009) defined a synchronous learning environment as one where real time lecturing or web conferencing makes it possible to provide the traditional classroom experience to a distance learner. Imbraile (2013) argued that LMSs enable teachers to use flipped classrooms as a strategy to enhance student engagement. Flipped classrooms provide teachers the opportunity to move lectures out of the classroom and into the home via technology, enabling more time for creativity and collaboration in the classroom (Clark, 2015). Furthermore, flipped classrooms enable students to view material presented by instructors at any time, providing students with flexibility (Imbriale, 2013).

Clark (2015) used a survey instrument called Student Perception of Instruction Questionnaire (SPIQ) with permission given from the creator (Arano-Ocuaman, 2010). The original survey was used to measure areas where technology impacted student learning and engagement. Through interviews, Clark found that many student participants reported that the flipped classroom model promoted engagement and increased their participation in the classroom. Furthermore, students reported that the quality of instruction was much better than in traditional settings they had experienced in the past. Students also stated that the use of collaboration in the classroom increased and that this strategy provided a greater opportunity for participation and involvement in the classroom. Clark concluded that the use of the flipped model of instruction increased student engagement and efficacy; however,

there was no statistical significance in student achievement on the teacher created unit assessments.

There are models of online learning that include traditional learning as a component to a lesson. The Rotation Model of blended/hybrid-learning has stations that include a direct instruction station, a collaboration station, and an online learning station (Staker, Horn, & Innosight, 2012). There are variations to this model that may appear slightly different. For example, there may only be two stations, in which the teacher may start the class with whole group, direct instruction, and then send the students to the other stations. Understanding that academic engagement is paramount in ensuring students' achievement and that integrating technology in the classroom fosters student engagement, educational leaders should take into consideration the perceptions of both students and teachers of blended or hybrid-learning (Rakes et al., 2006).

Need for the Study

There has been a trend over the last several years of decreasing student satisfaction among high school students, which has drawn the attention of many researchers (Delialioglu, 2012). Kuh (2001) argued that the best predictor of student achievement and personal growth is engagement, and in order to activate learning, teachers must develop academically purposeful activities. As a result, Hu and Kuh (2001) recommended that schools and teachers direct most of their energy to developing strategies in the classroom which utilize technology in order to improve student engagement.

With the use of technology in the classroom, students reported being more motivated to learn, feeling a closer connection to the material, and sensing an increase in collaboration. The chances to build 21st century skills were conveyed as being paramount to students (Parsons & Taylor, 2011). Parsons and Taylor (2011) asserted that 21st century students, also known as *technology natives*, have a need to be engaged through technology.

In this information age, it is inevitable to witness technology use in educational settings (Yapici & Akbayin, 2012). Hybrid-learning initiatives are vogue in many public school systems. Advocates of the hybrid method argue that this technique is a more student-centered approach to learning (Doering & Veletsianos, 2008). However, further research regarding student and teacher perceptions is appropriate. There is no clear research evidence in a public school setting of the effectiveness of hybrid-learning as an instructional model that includes online learning with face-to-face instruction (The Learning Accelerator, 2015).

It is important to gain an understanding of the views of students and teachers on hybrid-learning and how it enhances student engagement. Gaining knowledge of teacher and student beliefs about hybrid-learning will help institutions plan more effective strategies for incorporating technology into the classroom. As teachers use these newer online environments, they need to find a significant relationship between online learning and student engagement (Skylar, 2009).

Statement of the Problem

While research regarding distance learning and hybrid instruction exists, little research has been conducted to explore the perceptions of students and teachers when

students participate in online learning as part of a daily lesson in the presence of the instructor (Staker et al., 2012). Lam and Tong's (2012) study revealed that the use of technology in the classroom helped to increase motivation for students and teachers. Teacher motivation in the implementation of any initiative is paramount to the success of that plan.

The purpose of this qualitative study was to actively investigate student and teacher perceptions of hybrid-learning and traditional learning as strategies for student engagement in ninth grade mathematics and science classrooms. For the purpose of this study, hybrid-learning is instruction that combines face-to-face and virtual methods and tools (Bonk & Graham, 2006; Delialioglu, 2012; Gonzalez, 2014; Imbriale, 2013; Kazu & Demirkol, 2014; Pape, 2010; Staker et al., 2012). Also, the researcher compared the results and identified similarities and differences in those perceptions. In addition, the researcher sought to examine the perceived challenges associated with the implementation of hybrid-learning in mathematics and science classrooms from both the student and teacher perspectives.

Definition of Terms

For the purposes of this study the following definitions apply.

Asynchronous instruction - the form of online instruction which is typically used. This model provides students with the opportunity to access information posted by the instructor at their own pace. It is not required that there be a specific day and time that the students log into the online environment (Skylar, 2009).

Blended/Hybrid-learning environment - learning that mixes numerous event-based activities such as self-paced learning, Internet based learning, and face-to-face classroom instruction (Alonso et al., 2005).

Constructivism - a learning theory which suggests that learners create their own interpretation based on what they already understand and believe to be fact, combined with new experiences (Rakes et al., 2006).

Digital content - learning content that has been converted from written to digital, or is found via the Internet (Imbriale, 2013).

Distance learning - learning that takes place online away from the classroom (Doering & Veletsianos, 2008).

Flipped classroom - a teaching strategy that attempts to improve student engagement by moving lectures and traditional in class activities outside of the classroom via technology and moving homework, discussion, and collaborative activities into the classroom (Clark, 2015).

Learning Management System (LMS) - a self-contained webpage with embedded instructional tools that permit faculty to organize academic content and engage students in their learning (Laster, 2005).

Online learning - a variety of approaches, such as making resources available electronically, and creating rich, interactive online experiences with class activities using Web tools and educational sites via the Internet (Conceicao & Drummond, 2005).

Open educational resources - free resources available via the Internet, which can be used for instruction, offering teachers the opportunity to meet the individual needs of their students (Project Tomorrow, 2010).

Student engagement - Students become active participants in their own learning; teachers are facilitators rather than lecturers and students feel safe to take academic risks without fear of failure. This occurs when teachers encourage a student-centered approach to instruction (Martin & Furr, 2010).

Synchronous instruction - learning environment where real time lecturing or web conferencing makes it possible to provide the traditional classroom experience to a distance learner (Skylar, 2009).

Traditional learning environment - place where teachers are concerned with being in control of the learning environment. Responsibility for learning is the teacher's not the students'. The teacher causes learning to occur (Chang, Shu, Liang, Tseng, & Hsu, 2014).

Limitations

There were several limitations to this study. One limitation to this study was that the researcher designed the instruments used to collect data according to general rules of survey design. Due to the limited availability of research in the area of hybrid-learning which occurs in the classroom, there are no existing surveys with proven validity and reliability.

The data gathered for this study were from one high school. The research took place with 14 teachers, which provided limited perspectives from the instructors' point of view. Furthermore, student participants were from ninth grade mathematics

and science classes, which limited student perspectives. An additional limitation was that the researcher is employed as an administrator of the school district where data were collected; however, he had no supervisory role over any of the participants.

In addition, there was the question of transferability or generalizability, as there is for all qualitative research. As Marshall and Rossman (2006) explained, a qualitative study's generalizability may be problematic. They pointed out that research analysts see generalizing qualitative studies to other populations and settings as a flaw to the approach.

Research Questions

Based on the need for additional research in the area of student and teacher perceptions of hybrid-learning and traditional learning as best practices for student engagement, this study attempted to answer the following questions:

1. What impact do teachers believe a hybrid-learning environment has on student engagement?
2. What impact do teachers believe a traditional learning environment has on student engagement?
3. What impact do students believe a hybrid-learning environment has on student engagement?
4. What impact do students believe a traditional learning environment has on student engagement?

Summary

As online learning continues to be a growing trend in education, research in the area of student and teacher perceptions of hybrid-learning as a best practice for

student engagement has become critical. There has been much research in the area of hybrid-learning from the perspective of learning that occurs partially in the classroom and learning that occurs away from the classroom (Alonso et al., 2005; Clark, 2015; Conceicao & Drummond, 2005). Hybrid-learning, as defined for the purposes of this study, has had limited research. This study attempted to address student and teacher perceptions of hybrid-learning as a best practice for student engagement that occurs in the classroom through a three-station rotation model. This model of hybrid instruction provides students with direct instruction, a collaborative station, and an independent station which occurs online, all happening in the presence of the instructor. Furthermore, this study investigated student and teacher perceptions of the traditional learning environment as a best practice for student engagement.

Given the lack of scholarly research, the purpose of this qualitative study was to actively investigate student and teacher perceptions of the hybrid-learning and traditional learning environments in ninth grade mathematics and science classrooms and how those environments impact student engagement. Also, the researcher compared the results and identified similarities and differences in those perceptions. Lastly, the researcher sought to examine the perceived differences between traditional and hybrid-learning as they relate to student engagement.

Chapter Two – Literature Review

Introduction

Technology-driven education has become a growing trend as a way to motivate and engage students in learning throughout the world (Rakes et al., 2006). In fact, the number of online courses being offered to students by schools is increasing rapidly every day (Christensen et al., 2011; Haynie, 2015; Rakes et al., 2006; Xu, 2010). Over one million public school students are enrolled in online courses across the United States (Christensen et al., 2011). Furthermore, Haynie (2015) reported that approximately 5.3 million students took at least one online course in 2013, which was a significant increase from the previous year.

Additionally, the Keeping Pace with K-12 Digital Learning report (2015) revealed that hundreds of thousands of students are enrolled in full time cyber schools that provide them their entire education. The report further disclosed that today millions of students supplement their education at brick and mortar school with classes they take online.

Research regarding distance learning, hybrid, or blended instruction does exist; however, few studies have been conducted to explore the perceptions of students and teachers when students participate in online learning as part of a daily lesson in the presence of the instructor (Staker et al., 2012). Lam and Tong (2012) reported that the use of technology in the classroom helps to increase motivation for students and teachers. However, Staker et al. (2012) suggested that the effectiveness of online learning as motivating or engaging for students and a strategy to improve teacher efficacy needs further exploration. They further argued that teacher

motivation in the implementation of any initiative is paramount to the success of that plan.

This chapter will discuss the use of online learning as a strategy for student engagement in the hybrid or blended learning environment. Furthermore, there will be an exploration of customizing learning for the 21st century learner. In addition, an exploration of the personal learning needs of students, and how technology can help educators achieve growth in student engagement will be reported. The differences between online learning and traditional learning will also be explored. Finally, a review of the challenges facing online learning will be discussed as well as the benefits, as they relate specifically to student engagement.

Student Engagement

Stout and Christenson (2009) found that engagement is a process which includes participation leading to successful outcomes, promoting a feeling of belonging with the institution which advances a continuation of participation. Martin and Furr (2010) defined student engagement by describing a classroom which encourages a learner centered approach, where students are active participants in their own learning, where teachers are facilitators rather than lecturers, and students feel safe to take academic risks without fear of failure. Hilt (2011) conducted a case study involving 25 at-risk students that revealed the need for students to feel safe and comfortable in classrooms and the importance of matching the delivery of instruction with students' preferred learning style.

The key to sustained student engagement requires an understanding of how students develop an appreciation for what they are learning in school (Faircloth &

Miller, 2011). Furthermore, Faircloth and Miller (2011) contended that enabling students to see the value in what they are learning empowers their teachers to sustain student engagement. Lent (2012) maintained that there is a large gap between students' lives in the world and their lives in the classroom. Lent pointed out that this generation of students rarely communicates through pencil and paper; their world revolves around technological images, which include computer software and social networking tools, and using these tools in the classroom will engage students in learning.

Research conducted by Rollins (2014) revealed that motivation is a key factor in turning around students who struggle, noting that motivation is achieved by providing relevant engaging tasks for students. Rollins offered three strategies to help instructors motivate students. The first key is to make the learning relevant. Students learn best when they are involved in projects that are personally beneficial. The second strategy is to provide the appropriate level of difficulty for students. Tasks that are too easy bore students, and tasks that are too difficult discourage students. The third strategy is to incorporate choice. Providing students with some opportunity to choose tasks helps to engage them in the lesson (Rollins, 2014). Choice helps provide an authenticity to the subject matter being conveyed by the instructor.

Authenticity of learning is helping students make strong personal connections to the material (Faircloth & Miller, 2011). Faircloth and Miller (2011) reported on student-suggested strategies to achieve authenticity of content, after studying a diverse group of ninth grade English students. Suggestions included allowing

students as much choice as possible, selecting literature that reflects students' personal lives, relating content to current events that students find compelling, and allowing students to express themselves. Additionally, relevance is a strategy that provides students the opportunity to learn material that is important to them (Faircloth & Miller, 2011). It is imperative that teachers find a way to make tasks have a personal connection to their students because making key personal connections is important in demonstrating the values of the content students are going to learn. Faircloth and Miller (2011) cited evidence of such engagement as observations of students learning and interacting while having fun. Students consistently claimed that personal connections to learning were key to their identifying with the material. Furthermore, Schwahn and McGarvey (2012) agreed that students are motivated and engaged when their personal learning needs are being met. They maintained that everything students encounter outside of school is interactive and exciting, but when they get to the classroom educators ask them to "power down." Gonzalez (2014) contended that the traditional method of lecturing has been shown over and over again to be an ineffective strategy as it relates to student engagement.

Scherer (2010) described engagement as every student leaning forward, interacting with another student or the teacher, or interacting with the content in some way. Scherer further argued that engagement is not about entertainment, but rather about engaging the brain. The use of technology, therefore, provides instructors with more opportunities to engage their students by proposing choice to them, ensuring that assignments are at the appropriate level, and taking prior learning and knowledge into consideration (Scherer, 2010). Himmele and Himmele (2011) maintained that the

more they observed teachers, the more convinced they became that those teachers who ensured that students were actively engaged in the content were successful in getting their students to achieve. Trumbore (2014) conceded that engagement is not the only predictor of achievement; however, she argued that it is necessary to create the proper conditions for learning. Furthermore, Trumbore suggested that educators have just begun the exploration of engagement as it relates to technology being used in the classroom, and future research should be conducted.

Parsons and Taylor (2011) narrowed student engagement into several categories for exploration. One is interaction, a student's ability to have positive relationships with classmates and the instructor. This positive interaction is a must, either face-to-face or electronically. Furthermore, they contended that today's learners want to connect and communicate constantly, and educators must support that need. They maintained that the opportunity for students to explore answers posed by instructors on their own provides value to what students are learning. Relevancy is also paramount to engaging students; it is important that students feel a connectedness to what they are learning with their own life (Parsons & Taylor, 2011). Likewise, a richness of technology in the classroom is an important element for engaging students. Technology connects students to the world and provides them with the access to knowledge at all times. With the use of technology in the classroom, students reported being more motivated to learn, feeling a closer connection to the material, seeing an increase in collaboration, and more importantly, having the chance to build 21st century skills (Parsons & Taylor, 2011).

Constructivism. Constructivism is a learning theory that suggests learners create their own interpretation based on what they already understand and believe to be fact, combined with new experiences (Rakes et al., 2006). There are four cognitive active learning strategies in the Constructivist theory – activating prior knowledge, chunking, elaborating, and invoking a schema (Swiderski, 2011). Swiderski (2011) explained that activating prior knowledge involves bringing what is already known about a topic into light and acknowledged that many teachers use this strategy to open a new unit or lesson. He described chunking as the process by which teachers break a topic down into pieces that are more easily digested by students. In addition, Swiderski (2011) expounded that elaborating entails making the connection between what is already known with the new material being taught. He clarified that invoking a schema is simply offering a framework by which an outline of information can be retrieved by students. Finally, Swiderski (2011) argued that high school teachers who employ cognitive active learning strategies in their daily lessons and assignments would find that their students’ achievement levels would rise.

Chou and Tsai (2002) claimed that traditional curriculum development was teacher-centered and web-based curriculum should be student-centered, a constructivist’s approach. The pedagogy of Internet-based instruction is consistent with the principles of constructivism; constructivist oriented environments, such as online learning, call for a shared control of learning, a student-centered approach (Chou & Tsai, 2002).

Tsai (2005) argued that Internet-based instruction is a valid way of applying the principles of constructivism. Tsai conducted a study which examined students’

perceptions of Internet-based learning as it relates to the constructivist teaching philosophy. He found that students strongly favored Internet-based environments, which could connect knowledge with real-life situations or previous knowledge. Constructivist, Internet-based instruction should relate knowledge or previous experiences to guide students' learning and present knowledge in a variety of ways (Tsai, 2005). The results of Tsai's (2005) study revealed that the participants placed a high emphasis on the connection between real life situations and the learning of science. Today, the personal learning needs of students and the emphasis on a child's background and personal experiences do not begin until a student is assigned a teacher and then it only happens if the educator is exceptional enough to understand how to customize learning for each student (Schwahn & McGarvey, 2012). Schwahn and McGarvey (2012) argued that by not providing students with a constructivist's approach to teaching, teachers are limiting the learning opportunities for students.

Problem-based learning. Problem-based learning (PBL) encourages students to be responsible for their own learning experiences with teachers acting as facilitators (Gordon, Rogers, Comfort, Gavula, & McGee, 2001; Maxwell, Bellisimo, & Mergendoller, 2001; Stepien & Gallagher, 1993; Ward & Lee, 2004). Problem-based learning (PBL) is an instructional model that begins with a project or problem in which students can work independently or collaboratively to research answers to questions in a variety of ways, including online (Ward & Lee, 2004).

In traditional lecture-based instruction, students do not have the opportunity to practice the concepts they have learned until after the teacher lectures on the topic (Ferreira & Trudel, 2012). Ferreira and Trudel (2012) indicated that problem-based

learning offers students the opportunity to learn the concepts as they work collaboratively to solve a problem. They examined problem based learning (PBL) as an approach in science. They discovered that students enjoyed instruction which used PBL significantly more than in classrooms that did not practice the methodology. In addition, Ferreira and Trudel (2012) maintained that there was a greater sense of collaboration and community in the PBL classroom and that students of PBL classrooms exhibited a higher rate of achievement and enjoyed the class more than those students of traditional lecture-based classrooms. Hoskins (2012) claimed that active learning through PBL, constructivism, and collaboration is paramount to the success of online learning.

Use of Technology in the Classroom

Edmunds and Li (2005) conducted a study using an open-ended survey answered by nine experienced teachers within one high school, with the primary purpose of investigating the experiences and approaches of instructors who used technology in the classroom with at-risk students. Edmunds and Li found that technology based learning environments aided some students in overcoming barriers to learning. The use of technology contributed to the success of students who were previously considered at-risk students. Furthermore, strategies that traditional classrooms do not have to offer include a student-centered approach, the extension of the lesson outside of the classroom, and the ability of students to freely communicate with the instructor. Edmunds and Li further argued that the use of technology in the classroom aided the instructor in motivating students. The perceptions of the students were that the computer provided instant, unbiased feedback to them.

Rakes et al. (2009) claimed that when teachers integrate technology into the classroom, a constructivist environment can exist and student engagement occurs.

Rakes et al. maintained that having goals around the use of technology is an important step in the implementation process. In an attempt to demonstrate the importance of technology use in the classroom, Scherer (2011) cited the National Technology Goals:

- Use technology to help raise the percentage of young people with two or four year college degrees from 39% to 60% by 2020.
- Provide access to the Internet everywhere, in order to serve learners inside and outside the classroom.
- Put devices in the hands of every student.
- Make connectedness the hallmark of effective teaching.
- Fund research and development of open-source educational resources. (p. 20)

Brown and Brown (2010) called for a national technology literacy goal in an attempt to optimize technology used in the classrooms by both students and teachers.

According to the U.S. National Education Technology Plan (2010), the goal for educators should be to leverage technology to create relevant experiences for students in the classroom. Furthermore, the plan proposed that in order for educators to prepare students for life and beyond the classroom, they must change how they teach their students.

Pearlman (2006) maintained that technology plays a vital role in supporting students moving into the future. Furthermore, he indicated that technology provides students with the ability to work collaboratively in an area that houses assignments,

grade books, communication tools, and the curriculum. Christenson and Horn (2008) claimed that computers in the classroom enable teachers to customize instruction but maintained that devices are not currently being used to their capacity. They contended that the way to change an organization is to implement an initiative disruptively. So far, computers in the classroom have not disrupted the manner in which teachers instruct.

Strudler, Archambault, Bendixen, Anderson, and Weiss (2000) reported on some of the obstacles to incorporating technology into the classroom. Specifically, Strudler et al. stated that teacher training and professional development are lacking in the area of integrating technology in the classroom. Likewise, technology integration needs to be woven throughout a student's academic day. Strudler et al. cited research regarding first year teachers' beliefs that they were not adequately prepared for technology integration. Many teachers surveyed indicated that they use technology in preparation for their daily duties; however, they do not integrate it effectively in their lessons (Strudler et al., 2000).

Christenson and Horn (2008) further maintained that integrating innovation in the classroom effectively is paramount in successfully engaging students in the classroom. They noted two types of innovations: innovations that sustain an organization's current path and innovations that disrupt that path (Christenson & Horn, 2008). One example that Christenson and Horn offered was students who are interested in taking Advance Placement (AP) courses online that had been unable to do so are now capable of fitting such classes into their schedules. They highlighted

homebound and homeschooled students as being a prime market for computer-based learning since these students are a population fertile for distance and online learning.

Online Learning

Harrington (2012) investigated teacher and administrator perceptions related to online teaching and learning. One of the questions Harrington explored was, “What do teachers believe are the best practices of effective online teaching?” (p. 8) The teachers reported several best practices in several categories, including course design, instructional practices, and assessment design. Teachers indicated that clear instructions and expectations were the most important factors when developing online courses. Furthermore, the inclusion of engaging and interactive online activities for students was seen as being paramount to a successful course (Harrington, 2012). Schwahn and McGarvey (2012) argued that online learning provides educators with the opportunity to customize learning through transformational technologies. They pointed out that this has been the dream of educators for years, and now the tools exist to make it come to fruition.

Skylar (2009) offered a comparison of asynchronous and synchronous styles of online learning. The purpose of her study was to compare students’ success and satisfaction in both online learning environments. Skylar defined asynchronous online learning as the method typically used in online learning. This model provides students with the opportunity to access the information posted by the instructor at their own pace. It is not required that there be a specific day and time that the students log into the online environment. In contrast, Skylar defined a synchronous learning environment as one where real time lecturing or web conferencing makes it

possible to provide the traditional classroom experience to a distance learner. Skylar indicated that the students performed marginally better through synchronous learning, but that there was no statistical significance. Further, she argued that the results indicated that both models demonstrated effectiveness in delivering online instruction. Skylar further reported that student satisfaction surveys indicated that 73% of the students preferred to take an online course, which used synchronous lecture over text-based lecturing. Furthermore, 87% of the students felt that participating in synchronous online courses increased their level of understanding over the asynchronous online material.

Kates et al. (2015) argued that asynchronous group work has the same level of collaboration and requires the same level of communication. Students become more engaged when they are creating rather than just receiving information regardless of whether it is synchronous or asynchronous learning or instruction. Kates et al. further maintained that flipping the classroom has created a more student-centered approach to learning. They pointed out that this kind of instruction allows students the luxury of revisiting material whenever necessary and accessing it from anywhere the Internet is available. The study found that reversing the role of the student from passive receiver of knowledge to active participant improved student achievement. In a teacher-centered environment, the instructor is the sole provider of knowledge. Kates et al. indicated, “In a student-centered approach to learning the teacher taps into the students’ previous knowledge to facilitate new learning. Learning is most effective when students are creating” (p. 195).

As Skylar (2009) indicated, it is often necessary to use a Learning Management System (LMS) in online learning. Kates et al. (2015) stated that the research-consulting firm of MarketsandMarkets predicted that the LMS industry would grow from \$2.5 billion in 2013 to \$7.8 billion in 2018 (MarketsandMarkets, 2013). Collaborative discussions can take place in these LMSs, offering instructors and students similar opportunities for communication as the traditional classroom (Kates et al., 2015). However, as O'Hanlon (2009) purported, often times there can be resistance to the use of LMSs by teachers for various reasons. O'Hanlon reported on several districts' attempts to integrate learning management systems and technology in general into the classroom. Many teachers resisted the initiative based upon the fear of not understanding the technology or implementing it effectively. O'Hanlon stated that according to Education Market Research spending on technology is growing in school districts across the country; therefore, it is imperative for teachers to learn how to effectively implement it into the classroom. The key to successfully implementing technology is to do so gradually. One school district used five teacher leaders in a pilot program who ultimately became teacher trainers for their colleagues the following year. The solution to resistance is to have vendors provide comprehensive training for teachers with continual, follow up training provided by the district (O'Hanlon, 2009).

Avci, Keene, McClaren, and Vasu (2015) conducted a study which sought to show a statistically significant difference in student attitudes towards mathematics courses using online tools versus those using traditional strategies. The data for this

study were collected through interviews, teacher and student reflections, and an attitude survey called The Mathematics and Technology Attitude Scale (MTAS). Avci et al. indicated that student attitudes varied between those classes using online tools and those classes using traditional methods. Based on student interviews conducted by the researchers, a majority of students had positive attitudes towards online tools, and ultimately an increase in appreciation for the subject of mathematics. Avci et al. believed that online tools used for instruction in a mathematics course enhanced students' interest in that subject area, while teaching students the current communication and collaboration techniques they would need moving forward.

Blended/hybrid-learning. The presence of online learning does not put into question the existence of teachers or educational institutions; they should co-exist (Kerres & DeWitt, 2003). Kerres and DeWitt (2003) indicated that in many cases face-to-face interaction is a necessary ingredient to the successful implementation of a hybrid-learning program. The typical ingredients of a hybrid approach include face-to-face classroom instruction, interactive web-based training, email based communication, self-paced content, threaded discussions, collaborative software, virtual classrooms, print-based workbooks, and online assessing. Kerres and DeWitt's (2003) 3C-Model included content, communication, and construction. The content component was where learning was made available to the learner. The communication component provided an interpersonal exchange between the student and instructor or among the students. The construction component gave the students the opportunity to apply what they had learned, possibly through a project-based

assignment or a collaborative learning station (Kerres & DeWitt, 2003). All three components can be delivered through an online vehicle or in a face-to-face setting.

Edmunds and Li (2005) claimed that the most successful teachers were those who took a hybrid approach, when there were face-to-face interactions as well as online learning. Jackson and Helms (2008) found that students' perceptions of blended classrooms were that similar weaknesses continue to exist in those classes that had existed in both online courses and face-to-face courses. They maintained that students live in a culture of instant gratification; students expect immediate feedback on assignments, and require constant access to content and results on assessments. Jackson and Helms claimed that the blended format is a model used in an attempt to improve two methodologies. From their analysis of the research, they concluded that the blended model simply incorporates the best and worst of both pedagogies. However, Holley and Dobson (2008) maintained that blended learning offers students the opportunity to study content on their own time, enabling instructors to plan dynamic lessons, which offer collaboration and targeted, individualized instruction.

Pape (2010) found that blended learning enables teachers to extend the school day beyond the time that students are in the classroom and enables students to learn at their own pace. It provides teachers with additional resources in order to plan effective lessons. According to Pape, "With blended learning teachers can use online tools and resources as part of their daily classroom instruction" (p. 17). Mitchell and Forer (2010) maintained that individual learning styles affect students' views of blended learning. They further contended that traditional strategies are still valuable.

However, Staker et al. (2012) pointed out that combining online instruction with traditional instruction creates a hybrid or blended learning experience, which actively engages students in learning. Yapici and Akbayin (2012) pointed out that online or distance learning is expanding rapidly as the speed of the Internet increases; however, face-to-face instruction has never lost popularity.

Through blended learning, students are more engaged because they can choose their mode of communication and collaboration through the use of PowerPoint, web pages, or podcasts (Pape, 2010). Pape (2010) alluded to the fact that many students may be hesitant to take ownership of their own learning and try to cling to the former teacher-student relationship that existed. However, as students realized the benefits of their newfound freedoms, they became engaged in learning more deeply.

Gonzalez (2014) contended that the traditional method of lecturing has been shown over and over again to be ineffective as it relates to student engagement; however, he conceded that traditional face-to-face instruction provides teachers the opportunity to make personal connections with their students. In contrast, Chang et al. (2014) examined the effects of blended e-learning on an 11th grade electrical machinery class on achievement levels using a test and a self-assessment. Their study used an experimental group who used blended e-learning and a control group who were instructed in a traditional face-to-face setting. The results of the study indicated that there was no statistically significant difference on the achievement test; however, the experimental group rated themselves significantly higher on the self-assessment than the control group. This self-assessment confirmed that blended e-learning

students were able to improve their self-efficacy in terms of their learning performance. Chang et al. hypothesized that the above information could be the result of blended learning providing the face-to-face traditional instruction students need in order to move forward without the threat of dropping out, with the flexibility of reviewing the lessons countless times on their own time via the Internet.

Furthermore, Helms (2014) indicated that there are many studies that provided insight into blended learning at the four-year university level, which indicated that blended learning is successful at engaging and motivating college students.

Distance learning. The distance learning model provides students with real world experiences and a student centered approach to learning and problem solving (Doering & Veletsianos, 2008). Many educators were doubtful of the advantages of online learning. Kremer (2011) described how he converted from a skeptic to a champion of online learning. He cited several advantages for students who participate in online, distance courses. He maintained that online learning allows the flexibility to participate in learning at any time, without having to be at a certain place at a certain time. However, Kremer also pointed out some of the concerns he had regarding the rigor of online courses; namely, requiring students to simply complete a list of online tasks is not rigorous enough. He attempted to plan lessons that required the same amount of time with material online, as the students would spend with material in the classroom. He found that he actually had to create more assignments in an online course due to the fact that in-person discussions were being replaced with writing assignments. According to Kremer, the need to have ongoing communication with the students enrolled in his online course was crucial.

Kremer (2011) further maintained that there was a perception that online courses lacked positive collaboration. He pointed out the typical solution of discussion boards and requiring students to post a set number of posts. He combatted this issue of posts by asking students to engage in meaningful conversation online, allowed students to have some choice, within the context of the curriculum, for their discussion posts. This created rich, engaging conversation online. Another concern expressed by Kremer was the threat of students cheating. In order to alleviate this concern, he created assignments that were not easily plagiarized. In addition, he required an initial face-to-face session in which he asked for a writing sample from his students, which made this course somewhat blended in nature.

Ultimately, Kremer (2011) reported that he had to accept the nature of online, distance learning and rather than fight, he allowed students to consult materials outside of the curriculum, which promoted taking responsibility for learning. Surveys of students conducted by Kremer indicated that online learning in his class was a huge success.

Benefits of online learning. Edmunds and Li (2005) found that technology based learning environments aided some students in overcoming barriers to learning. The use of technology contributed to the success of students who were previously considered at-risk students. Strategies that traditional classrooms do not have to offer are a student-centered approach, the extension of the lesson outside of the classroom, and the ability of students to freely communicate with the instructor. Edmunds and Li further maintained that the use of technology in the classroom aided the instructor in motivating students. The perceptions of the students were that the computer

provided instant, unbiased feedback to them. Boles (2011) argued that the most important use of technology in the classroom is the Internet. She pointed out that textbooks could be outdated; however, material on the Internet is consistently being updated. In addition, Kay (2014) investigated the impact of Web-Based Learning Tools (WBLTs) on student achievement in mathematics and sciences classes.

WBLTs refer to tools and web sites available to teachers to assist in learning. These tools are sometimes referred to as Open Educational Resources (OER). Kay pointed out that previous research demonstrated that student achievement had not improved through the use of technology. However, he argued that OERs offer specific features that would allow teachers to provide students with specific learning objectives which would help students grow academically.

While Hicks (2011) focused on the benefits of technology in the classroom, he reported on some of the reasons teachers resist the use of technology. He argued that many teachers feel that there is a lack of professional development in the area of online resources, and that often times the technology is inconsistent or does not work. In contrast, Boles (2011) explained three benefits of the Internet in a science classroom. The first benefit of using the Internet is the ability of the teacher to use animation in order to differentiate instruction. Boles argued that in a textbook there is only one diagram for all students, while online students can benefit from many 3D presentations. The second benefit that Boles described is authentic experience through simulation. This provides students with the opportunity to experience some of the tasks scientists encounter and gives students a chance to become a scientist during a lesson. The third benefit points out that podcasts provide students an

opportunity to review content prior to coming to the classroom. These podcasts also give reviews for students to use whenever necessary.

The use of technology naturally engages students in lessons more effectively than most teaching strategies (Boles, 2011). The use of software for presentations is a much more effective way for students to demonstrate knowledge than pencil and paper activities. Kay (2014) reported that teacher survey data demonstrated that teachers believed that Open Educational Resources (OERs) helped promote student engagement and increased student achievement. Furthermore, survey data demonstrated that students believed that the use of these tools promoted engagement; however, their scores were lower than the teachers' ratings of OERs.

Challenges to Online Learning

Chou and Tsai (2002) discussed challenges that teachers and curriculum developers face as they pertain to online instruction. They explored the seven stages of curriculum design taking into account the unique nature of developing web-based curricula. Defining target students and their needs is a much more daunting task when developing online curriculum versus the traditional classroom setting (Chou & Tsai, 2002). Furthermore, Chou and Tsai (2002) argued that traditional curriculum development was teacher-centered and web-based curriculum must be student-centered, a constructivist approach. They maintained that the authorship of curriculum should shift from being solely the teacher's responsibility to a shared responsibility between students and teachers. When developing online curriculum, Chou and Tsai (2002) maintained that teachers should review a large amount of information from the Internet in order to make links in the appropriate places

throughout the online course. There is a greater amount of choice for curriculum developers of online courses in terms of resources than those of traditional curriculum. Finally, it is essential that curriculum developers be able to grasp the requirements of technology as they pertain to Internet-based assessments (Chou & Tsai, 2002). The pedagogy of Internet-based instruction is consistent with the principles of constructivism. Constructivist oriented environments, such as online learning, call for a shared control of learning, a student-centered approach (Chou & Tsai, 2002).

The failures of some one-to-one initiatives were due largely to schools taking a traditional curricular approach to online learning, rather than adjusting to a student-centered approach (Perlman, 2006). Doering and Veletsianos (2008) argued that most technology used by teachers today is teacher-centered. Technology is simply used as another vehicle to transmit information from the teacher to the student. They further maintained that teacher preparation programs have not been successful at preparing pre-service teachers to use technology effectively in the classroom. Boitshwarelo (2009) reported other challenges to the implementation of blended learning, including infrastructure, on-going support of teacher training, and funding.

The integration of instructional technology requires further professional development (Zhang & Liu, 2006). Zhang and Liu (2006) claimed that as the understanding of the benefits of instructional technology becomes evident and professional development in this area becomes a priority, the use of technology in the classroom would continue to grow.

Pierce and Ball (2009) reported on the barriers and enablers to the use of technology by mathematics teachers in secondary classrooms. Despite overall positive attitudes displayed by teachers, they did point out several barriers to promoting the use of technology and made recommendations on how building level administrators could address those barriers. The authors used the Theory of Planned Behaviors (TPB), which affects a person's ability to change. Pierce and Ball stated that the TPB considered attitudes and perceptions, which either enable or place barriers for change. Based on the survey, Pierce and Ball concluded that while teachers acknowledged that the use of technology may increase student achievement, they still saw many perceived barriers. These barriers included the affordability of devices and the possible inequity this could create. In addition, Pierce and Ball indicated that some teachers feared that there would not be enough time dedicated to any one lesson, which would prevent the effective use of devices in the classroom. They concluded, "Transition from traditional mathematics class to one where technology is used as an integral part of teaching requires teachers to be prepared to change and make a commitment to learning to use the technology in an effective manner" (p. 315).

Students have changed over the last several years, and the level at which students use technology in their every day lives has challenged educators to engage them in a different manner (Parsons & Taylor, 2011). Most educators are calling for a transformation in pedagogy and argue that we fail to meet the needs of the children who have grown up in a digital era (Project Tomorrow, 2010). Furthermore, Daniels, Jacobsen, Varnhagen, and Friesen (2013) maintained that educators should recognize

why technology initiatives fail. They pointed out that many educators place the blame squarely on the failure of the devices purchased by the district. Daniels et al. found that often initiatives fail due to improper planning through professional development. They claimed that buying state of the art devices with no plan dooms a school district's technology initiative to failure. However, Saltman (2014) maintained that in today's educational climate, it is extremely difficult for educators to ponder the potential impact of technology on education, especially when compared to issues of compliance regarding subjects of management, evaluations, and shrinking school district budgets. Saltman further indicated that traditionally it has been teachers themselves who have been left to determine the best use of technology in their classrooms.

However, November (2012) argued that the biggest challenge to online learning is a teacher's inability to let go of control. In fact, he maintained that professionally developing teachers to use online tools has little to do with physical tools and more to do with a shift in "who owns the learning" and who is working the hardest, the teacher or the student. He maintained that traditional teaching creates boundaries for students, while online learning allows for limitless possibilities. November proclaimed that many schools have handcuffed students' learning through faulty policies that do not allow certain resources in science and mathematics instruction, such as Twitter and Pintrest.

Summary

Research has demonstrated that online learning is becoming a huge phenomenon in education today (Christensen et al., 2011; Haynie, 2015; Rakes et al.,

2006; Xu, 2010). In addition, numerous studies have indicated that student engagement is of the utmost importance, specifically as it pertains to student achievement in the classroom and on standardized tests (Pintrich & DeGroot, 1990).

Research has indicated that the use of technology in the classroom has helped to increase motivation for students and teachers (Lam & Tong, 2012). However, Staker et al. (2012) suggested that the effectiveness of online learning as motivating or engaging for students and as a strategy to improve teacher efficacy needs further exploration. They further argued that teacher motivation in the implementation of any initiative is paramount to the success of that plan.

In addition, Helms (2014) claimed that there are many studies that provide insight into blended learning at the four-year university level, which indicated that blended learning is successful at engaging and motivating college students. However, Helms indicated that further research is needed at the high school level to determine if the pedagogy is a successful strategy for engaging high school students. The research is clear that student engagement is a process which includes participation leading to successful outcomes, promoting a feeling of belonging with the institution and promoting a continuation of participation (Martin & Furr, 2010; Stout & Christenson, 2009). It is also clear that blended and online learning are a growing phenomenon at the high school level (Christensen et al., 2011; Haynie, 2015; Rakes et al., 2006). However, what is not clear is if blended learning and online learning are engaging to students and provide teachers with a feeling of self-efficacy.

Rakes et al. (2006) discovered that there is a significant relationship between teachers' use of technology and the practice of constructivism. When teachers

integrate technology into the classroom, a constructivist environment can exist, and student engagement occurs. A constructivist environment gives students the opportunity to apply what they have learned, possibly through a project-based assignment or a collaborative learning station (Kerres & DeWitt, 2003).

Although online learning advocates list many advantages regarding student engagement, there are several challenges to implementing online curriculum. Schools cannot take a traditional approach to curriculum development when attempting to implement blended learning (Pearlman, 2011). Pearlman reported that a traditional approach to curriculum development for online courses has failed in many schools. Furthermore, there is a lack of solid professional development and an inconsistency with the performance of technology which has been a challenge for many schools (Boitshwarelo, 2009; Hicks, 2011).

While there are challenges, the benefits of online learning continue to compel educators to attempt implementation (Edmunds et al., 2005). Boles (2011) maintained that technology naturally engages students in learning and increases student motivation.

Chapter Three – Methods and Procedures

Introduction

Engaging students through active learning strategies is paramount to student achievement (Swiderski, 2011). Greenwood et al. (2002) argued that motivation and study skills have a direct effect on academic engagement, and that the best instructional practices to promote student engagement are computer-related tasks and hybrid-learning which provides teachers with the opportunity to use computers in their daily lessons.

The purpose of this qualitative study was to actively investigate student and teacher perceptions of hybrid-learning and traditional learning environments in ninth grade mathematics and science classrooms and how those environments impact student engagement.

This chapter addresses the methodology used for this study including the subjects tested in the study and the setting in which the subjects interrelate. Furthermore this chapter describes all instruments used in the study and the procedures implemented.

Subjects

The participants of this study were 71 students and 14 teachers selected from ninth grade mathematics and science classrooms within one high school in one district in the Commonwealth of Pennsylvania. The subjects were part of a pilot program in which hybrid-learning and the three-station rotation model were implemented during the 2015-2016 school year.

After consent was obtained from the superintendent of schools, an invitation went to 16 ninth grade mathematics and science teachers and over 300 ninth grade mathematics and science students asking them to participate in an online survey. The teachers ranged in experience from first year professionals to those with 20 years in the field of education. The 16 teachers experienced extensive professional development prior to the beginning of the school year in the area of conducting a hybrid-learning lesson, were invited to participate. The ninth grade mathematics and science students who participated in the pilot were selected based upon their schedule.

Setting

This study was conducted in one school district located in southeastern Pennsylvania. The school district boasts a student population of over 5,000 students. The high school that was selected has a School Performance Profile (SPP) score of just over 80.

The ninth grade academy at the high school level was selected as the setting of the study. There are approximately 900 students in the ninth grade from an extremely diverse population of students. There are over 53 different languages spoken, and the free and reduced lunch population is well over 50%. There are 42 teachers in the ninth grade academy, and 14 teachers from the hybrid-learning pilot were invited to participate in the study. The three station-rotation model consists of a direct instruction group; a collaborative, problem solving group; and an online station.

Instruments

The instruments used in this study were surveys that include Likert questions and questions requiring open-ended responses designed based on current research, coupled with interviews of students and teachers.

Survey. The survey for teachers (Appendix A), which was on Survey Monkey, included 26 Likert Scale questions and four open-ended questions. The survey for students (Appendix B), also on Survey Monkey, had 18 Likert Scale questions and six open-ended questions. The survey took no more than 20 minutes to complete. The researcher emailed a link to the principal of the high school and asked that he forward the link to the teachers who were invited to participate. It was the expectation that all subjects participate electronically. Likewise, the researcher asked the principal to use district created, student email accounts to provide the link to students who were invited to participate.

Interview. Interview questions (Appendices C and D) were designed to validate survey findings for the students and teachers participating in the study. Interviews of the subjects consisted of six questions designed to center on the perceptions of students and teachers with regard to hybrid-learning and traditional learning as best practices for student engagement. The interview questions were designed to probe more deeply into the perceptions of the subjects and were open-ended. Interviews were conducted at the school in the freshmen academy office and were recorded electronically with permission in order to ensure accuracy in reporting. The researcher conducted the interviews, and an opportunity for elaboration was provided to the teachers and students. A field test was conducted with students and

teachers from another school district in southeastern Pennsylvania that had implemented hybrid-learning in the past. This field test was an attempt to obtain feedback on the clarity and simplicity of use of the survey itself. Adjustments were made based upon the feedback of those teachers and students who participated in the field test.

Reliability. According to Merriam (1995), “Reliability, in qualitative research, refers to whether the results of a study are consistent with the data collected” (p. 56). For the purposes of ensuring reliability in this qualitative study, the researcher created instruments that provide clear and coherent questions and utilized the online survey tool Survey Monkey which created a common platform for volunteer participants. The survey instruments were all pilot tested with teachers from another district that had implemented hybrid-learning and the three-station rotation model. Interview questions were piloted as well. Interviews were all administered at the participants’ convenience, and in order to create an unthreatening condition, the researcher communicated with all interviewees about the process.

Validity. Validity or trustworthiness of the evidence gathered is about ensuring the instruments used match what is intended to be measured (Golafshani, 2008). Validity cannot be achieved by gathering evidence through the use of one tool. In order to ensure the validity of this qualitative study, the researcher triangulated the data. Triangulation strengthens a study through the combination of instruments to gather data (Golafshani, 2008). For this study the researcher corroborated data collected through a survey that included open-ended questions and interviews.

Design of the Study

This study utilized a qualitative research design as the inquiry method. Research questions were designed within the context of a public school district which had implemented hybrid-learning. Specifically, this qualitative study was designed to investigate the perceptions of students and teachers of hybrid-learning and traditional learning as best practices to student engagement. Marshall and Rossman (2006) reported that qualitative research involves subjects who interact in a natural setting. This study's focus will be perceptions; therefore a qualitative study is more appropriate than a quantitative one.

This study was a descriptive analysis and clarification of public school teachers' and students' perceptions utilizing a survey with Likert scale and open-ended questions and interviews as data sources in an attempt to attain triangulation. Specifically, teachers and students directly involved with hybrid-learning were asked to complete an online survey that compared hybrid-learning to traditional learning as a best practice for student engagement. Interviews were conducted with teachers and students in order to gain elaboration on survey responses and to discuss with more depth their views of hybrid-learning and student engagement. The use of these data collection tools served as assurance that data gathered were valid.

Procedure

Once the researcher obtained permission from the superintendent of schools to collect data through an online survey and interviews, the researcher made revisions to the questions based upon the field test that the researcher conducted in another school district. The researcher completed a proposal to Immaculata University's Research

Ethics Review Board (RERB) to seek written approval from the university to conduct the study.

Once approval from the RERB had been attained (Appendix E), the first step in the process was to contact the principal and ask to be able to communicate with the teachers via email in order to invite them to participate by completing the survey and open-ended questions. This communication included the link to the online survey. In the email, the researcher indicated that participation in the survey would serve as consent to participate in the study. Furthermore, the researcher asked the 14 hybrid-learning teachers to participate in the interviews via email communication. At the completion of this process, the researcher sent a follow up email thanking the teachers for their participation in the interviews.

The second step in the data collection process involved the student participants. Due to federal law that defines *children* as persons who have not yet attained the age for consent to treatments or procedures involved in research, it was necessary for the researcher to send the Immaculata University Information Letter and Consent Form for Parents or Guardians Permission for Research with Children in order to obtain parental consent. In addition, the students were asked to sign an assent form. Any child who did not complete that paperwork or have parental consent did not receive a communication from the researcher inviting them to participate in the survey or interview. Once those permissions were secured, the researcher emailed the principal and asked that he forward the students participating in the study an invitation to take an online survey via Survey Monkey and provided

them the opportunity to volunteer to participate in an interview. Survey responses were then gathered and analyzed.

The third step in the process was the random selection of teachers and students who had requested to participate in an interview for further data collection. The researcher communicated with each teacher and student selected in order to schedule an in-person interview. Once the researcher obtained consent from the students' parents or guardians and received the student assent form, an interview was conducted at the site where the students attended school. Similarly, once the researcher received written consent from the teachers, the interviews were conducted. The researcher recorded the data through the use of a recording device, with the participants' permission, as well as through note taking. The researcher used a series of eight prepared interview questions that were intended to gain an understanding of the perceptions of students and teachers on hybrid-learning and traditional learning as best practices to student engagement. Once all the interviews were concluded, the information collected was transcribed and shared with the participants in order to ensure accuracy of the data collected. Once the accuracy of the transcription was completed, the data were analyzed.

Data Analysis

The data from this study were collected through surveys with open-ended questions included and interviews. Upon the completion of the data collection process, it was necessary for the researcher to analyze the data. According to Marshall and Rossman (2006), this process begins with retrieving the data. They further stated that the researcher should use preliminary research questions and

literature as guidelines for analysis. Analyzing data is an attempt to bring structure and make sense of the data collected during the collection phase (Marshall & Rossman, 2006).

The data were organized into four categories: (1) teacher perceptions of the impact of hybrid-learning on student engagement, (2) teacher perceptions of the impact of traditional learning on student engagement, (3) student perceptions of the impact of hybrid-learning on student engagement, and (4) student perceptions of the impact of traditional learning on student engagement. The data were extrapolated and analyzed in order to identify trends and themes related specifically to hybrid and traditional learning as best practices to student engagement.

Summary

This study examined the perceptions of public school students and teachers from a school district in southeastern Pennsylvania of hybrid-learning and traditional learning as best practices for student engagement, through surveys and interviews. Additionally, the researcher sought to identify through surveys and interviews the perceived challenges to student engagement regarding the implementation of hybrid-learning from both the teachers' and students' perspectives.

One public high school in southeastern Pennsylvania was the focus of this study. The study's participants were teachers and students from the ninth grade class who were part of the implementation of a hybrid-learning initiative in mathematics and science. Hybrid-learning in this case was the three-station rotation model, where there was a direct instruction station, a collaborative station, and an independent

station where students were learning online through the use of a device with Internet capabilities.

Data were collected through the use of a student survey with Likert scale and open-ended questions, student interviews, a teacher survey with Likert scale and open-ended questions, and teacher interviews. The surveys were conducted via email correspondence with a link to the Survey Monkey site. Interview data were collected through a note taking procedure as well as through the use of a recording device. These data were analyzed and the results and findings are presented in Chapter Four.

Chapter Four – Results

Introduction

The purpose of this study was to examine the perceptions of teachers and students on the impact of the hybrid and traditional learning environments on student engagement. The examination of the data from this study is presented in this chapter, and the data are organized by each research question. In addition, an investigation of the perceived challenges associated with these two learning environments is reported.

The data were collected through the distribution of online surveys to 8 ninth grade mathematics teachers and 8 ninth grade science teachers. In addition, 300 ninth grade mathematics and science students were invited to participate. A random selection of participants was invited to take part in a follow-up interview designed to allow participants to elaborate on data related to the research questions. The data that were collected were analyzed and organized based on identified trends, parallels, and variances among the perceptions of the teachers and the students who participated in the study.

A survey was distributed to 16 teachers, and 14 were returned through online submission representing an 87.5% return rate. Of the 14 returned surveys, seven were from mathematics instructors and seven were from science instructors. A survey was distributed to 300 students, and 71 surveys were returned through online submission representing a 23.6% return rate. Of the 71 student surveys, four students were enrolled in a mathematics only hybrid class, 32 students were enrolled in a science only hybrid class, and 35 students were enrolled in both a mathematics and science

hybrid class. Table 4.1 reflects teacher participants and table 4.2 reflects student participants.

Table 4.1

Teacher Participants

Subjects	Number of Participants	Percentage of Participants
Mathematics teachers	7	50%
Science teachers	7	50%

Note. N=14

Table 4.2

Student Participants

Subjects	Number of Participants	Percentage of Participants
Mathematics Students	4	5%
Science students	32	45%
Students enrolled in both	35	49%

Note. N=71

Teacher and student interviews occurred after the survey data were collected. Eight randomly selected teachers were invited to participate in an individual interview, and all eight of the teachers participated. Twelve randomly selected students from the 71 who completed the survey were invited to participate in an individual interview, and 10 students accepted, representing an 83.3% participation rate.

Analysis of Research Questions

Research question one: What impact do teachers believe a hybrid-learning environment has on student engagement?

Research question one was answered using data collected from online surveys completed by the teachers and through the interviews of teachers developed and conducted by the researcher. Specifically, questions #5 through #15 and questions #27 and #28 of the teacher survey helped answer research question number one. In addition, questions #1, #3, and #5 of the teacher interview probed for a deeper understanding of teacher perspectives of hybrid-learning's impact on student engagement as well as some of the challenges the hybrid-learning environment presented for student engagement.

Teacher survey results. Question #5 of the teacher survey asked teacher participants to rate how the hybrid-learning environment compared to the traditional learning environment with regard to providing students a fair and enjoyable experience. Eight teachers (57%) believed that the two settings provided the same environment with respect to a fair and enjoyable experience. Four teachers (28.5%) believed that the hybrid-learning environment offered a better environment for fairness and enjoyment and two teacher participants (14.2%) believed that the hybrid classroom offered a worse environment.

Questions #6, #9, #10, #12, and #14 asked teacher participants to measure student skills that were developed in the hybrid-learning environment. Teachers' responses to question #6 indicated that six teachers (42.8%) believed that about half of the students in the hybrid environment demonstrated high levels of class

participation. Four teachers (28.5%) believed that not many students demonstrated high levels of class participation and three teachers (21.4%) believed that almost all hybrid students demonstrated high levels of class participation. One teacher (7.1%) did not respond.

In question #9, teacher participants were asked to estimate the amount of students who have actually developed higher order thinking skills in the hybrid-learning environment. Ten teacher participants (71.4%) believed that not many students had developed higher order thinking skills in the hybrid environment. Three teachers (21.4%) indicated that about half of the students in their hybrid classrooms had developed higher order thinking skills and only one teacher (7.1%) reported that almost all of their students had done so.

In question #10, teacher participants were asked to estimate the amount of students who were engaged when working independently in the hybrid environment. Six teachers (42.8%) believed that about half of their students were engaged while working independently in the hybrid environment. Four teachers (28.5%) revealed that not many students were independently engaged and four teachers (28.5%) explained that almost all of the students in the hybrid environment exhibited engaged behaviors independently.

In question #12, teachers were asked their perceptions of student engagement while students were working collaboratively in the hybrid setting. The data collected revealed that six teacher participants (42.8%) believed that about half the students in the hybrid environment were engaged while working collaboratively while six teachers (42.8%) believed that not too many students were engaged. Only two

teachers (14.2%) indicated that almost all students were engaged while working collaboratively in the hybrid environment.

Question #14 requested that teacher participants estimate the percentage of students who were motivated to learn in the hybrid environment. Eight teachers (57.1%) estimated that about half of their students exhibited high levels of motivation to learn in the hybrid classroom. Four teachers (28.5%) reported that not too many students in the hybrid environment were motivated to learn while two teachers (14.2%) believed that almost all of their students were motivated to learn in the hybrid classes. Table 4.3 includes the above reported data.

Table 4.3

Student Skills Developed in the Hybrid-Learning Environment

Skill	All	Almost all	About half	Not many	None	No response
6. Class participation	0 0%	3 21.4%	6 42.8%	4 28.5%	0 0%	1 7.1%
9. Development of higher order thinking skills	0 0%	1 7.1%	3 21.4%	10 71.4%	0 0%	0 0%
10. Independent engagement	0 0%	4 28.5%	6 42.8%	4 28.5%	0 0%	0 0%
12. Collaborative engagement	0 0%	2 14.2%	6 42.8%	6 42.8%	0 0%	0 0%
14. Motivation to learn	0 0%	2 14.2%	8 57.1%	4 28.5%	0 0%	0 0%

Note. N = 14.

In questions #7, #8, #11, #13, and #15 of the teacher survey, teacher participants were asked to compare skills development of students in the hybrid classroom to skills developed in the traditional classroom. Question #7 of the teacher survey asked teacher participants to compare the level of class participation in the

hybrid environment to that of the traditional environment. One teacher (7.1%) did not respond to question #7. Six teachers (42.8%) reported that in both environments, the level of participation was about the same. Two teachers (14.2%) indicated that class participation was somewhat better in the hybrid environment and five teachers (35.7%) indicated that class participation was somewhat worse in the hybrid-learning environment.

Question #8 asked teacher participants to compare the development of higher order thinking skills in students in the hybrid environment versus the traditional environment. Seven teachers (50%) reported that the development of higher order thinking skills was about the same in the hybrid and traditional learning environments. Five teacher participants (35.7%) indicated that the hybrid environment was somewhat less effective in helping students develop higher order thinking skills, and only one teacher participant (7.1%) believed that the hybrid environment was somewhat more effective than the traditional environment in helping students to develop higher order thinking skills. One teacher (7.1%) did not respond.

In question #11, teacher participants considered student engagement during independent work in the hybrid setting compared to independent engagement in the traditional setting. Seven teachers (50%) believed that independent engagement was about the same in the hybrid classroom as it was in the traditional classroom. Five teachers (35.7%) reported that students were somewhat less capable of working independently in the hybrid setting. Only two teachers (14.2%) believed that students were somewhat more capable of working independently in the hybrid setting.

In question #13, teacher participants reported a comparison of collaborative engagement between the hybrid and traditional settings. The data revealed that eight teachers (57.1%) expressed that students were engaged about the same in both environments. Four teachers (28.5%) believed that students were somewhat less in the hybrid environment while working collaboratively and two teachers (14.2%) reported that students were somewhat more engaged when working collaboratively in the hybrid classroom.

Question #15 requested that the teacher participants compare the motivation levels of students in the hybrid environment to motivation levels of students in the traditional learning environment. Six teacher participants (42.8%) demonstrated the belief that motivation levels for students in both settings were about the same. Additionally, six other teacher participants (42.8%) reported that students were somewhat less motivated in the hybrid environment compared to the traditional classroom. Finally, two teacher participants (14.2%) believed that students in the hybrid setting were somewhat more motivated than students in the traditional classes. The data collected from these questions are illustrated in Table 4.4.

Open-ended responses. Teacher participants identified what they believed to be positive aspects of student engagement they observed in the hybrid-learning environment in their responses to question #27 on the teacher survey. Fourteen teachers answered question #27. Four of the teachers indicated that one of the most positive aspects of the hybrid-learning environment was that the students believed that the class went faster. One teacher indicated specifically, “Time goes by faster for students, they say it is more fun and less boring.” Similarly, another teacher

participant indicated that students reported that the class goes quicker because of the built in rotation model.

Table 4.4

Developing Skills in the Hybrid-learning Environment Compared to the Traditional Learning Environment

Skill	Significantly better	Better	About the same	Worse	Significantly worse	No response
7. Participation	0 0%	2 14.2%	6 42.8%	5 35.7%	0 0%	1 7.1%
8. Higher order thinking skills	0 0%	1 7.6%	7 50%	5 35.7%	0 0%	1 7.1%
11. Independent engagement	0 0%	2 14.2%	7 50%	5 35.7%	0 0%	0 0%
13. Collaborative engagement	0 0%	2 14.2%	8 57.1%	4 28.5%	0 0%	0 0%
15. Motivation	0 0%	2 14.2%	6 42.8%	6 42.8%	0 0%	0 0%

Note. N=14

Four other teachers emphasized the rotation model of instruction, and moving from one station to the next, as being a benefit for student engagement. One teacher stated, “Students seemed to like to physically get up and move to other stations. They seem to reset. Students were studying online flashcards at the independent station. This is the first time I've seen actual studying in the classroom.”

Three teacher participants used the word “opportunity” in answering question #27. Specifically, they emphasized that the hybrid model provided opportunities for students that the traditional learning environment could not deliver. One teacher wrote, “The hybrid environment provides students with the opportunity to view the content in different ways and gives the chance for far more engaging activities.”

Another teacher reported that the direct station, where the instructor directs students, gave quiet students a better opportunity to feel more comfortable participating, due to the smaller number of students. A third teacher participant responded that students had the opportunity to use technology to research problems they encountered while completing assignments, helping them become more independent learners.

Five teacher participants focused on the level of enjoyment students exhibited in the hybrid environment when answering question #27. One teacher indicated, “Some students really enjoy moving around the classroom and switching up the mode at which they learn the content. I have found that my students who are better independent learners seem to enjoy hybrid more.” There were three other teachers who reported that students seemed to enjoy the opportunity to work independently on the computer, solving problems or doing research.

Teacher participants were asked to identify challenges for student engagement they observed in the hybrid-learning setting in question #28. Fourteen teachers answered this question. One common theme which emerged from the data was that teachers had concerns over their students’ ability to work at the independent station and stay engaged in the material. Three teachers expressed concerns over engagement by specifically pointing out the independent station as an area where students may be off task. One teacher argued, “Students are not self-directed and self-motivated enough to complete assignments.” Another teacher reported that because students were not engaged at the independent station they were not able to complete their work. Similarly, one other teacher wrote, “Students are not engaged at the independent station, not motivated learners, most are unable to independently

complete assignments and continually ask for help. It is difficult to discipline students and keep them on task at the independent station.”

In addition, teacher participants expressed concern over their ability to monitor student progress and behavior in all three groups in the rotation at one time. For example, one participant maintained, “A teacher cannot stay on top of all three groups. Two have been better from a classroom management standpoint.” Similarly, another teacher pointed out, “Trying to monitor all the groups to make sure they are on task is a struggle.” Lastly, another teacher reported, “I have found a lot of students going through the motions or exhibiting off task behaviors.”

Teacher interview results. Interview questions #1, #3, and #5 probed teacher participants for a deeper understanding of their perspectives of hybrid-learning’s impact on student engagement as well as some of the challenges the hybrid-learning environment presented for student engagement. Four science teachers and four mathematics teachers were randomly invited to participate in the interviews. All eight teachers agreed to participate in the interviews. Interview question #1 asked teacher participants to identify examples of ways in which students were engaged in the hybrid classroom. There were several common themes that emerged. First, four teachers identified the collaborative station in the three station rotation model as a good environment for promoting student engagement. One teacher reported, “In a collaborative group, they would be working together on some type of problem that we've been practicing in class. Helping each other out, looking for mistakes, comparing their answers to see what was right, what was wrong.” Another teacher said, “I have definitely seen an increase in students’ willingness to work together.”

Another common theme that emerged was the idea that students were engaged at the independent station while working online. Specifically, three teachers commented on the students being engaged while using the devices at the independent station. Five teachers believed that most of the engagement was occurring at the direct instruction station. One teacher reported, “I think that the majority of the engagement came from the direct instruction station where the teacher was most involved in the process only because I was able to facilitate more and watch over their behaviors.”

Interview question #3 asked teacher participants to identify aspects of the hybrid-learning environment that created challenges for student engagement. The most common theme that emerged was the fact that students were spending a majority of their time away from the teacher in the hybrid classroom. Six teachers reported this as a major hurdle for student engagement. One teacher opined, “They spend about two thirds of their time away from me. That's been a big challenge, I have a lot of students that need me to stand over their shoulder.” The final theme that emerged was the maturity level of students and their academic abilities. Four teachers made mention of the students selected for the hybrid pilot being too immature and academically low to handle the three station rotation model. One teacher said, “The maturity level of the students is my biggest issue. The class that we rolled out this initiative with, we tried the hybrid-learning model with, are my least mature students; so it's difficult.”

Interview question #5 asked teacher participants if their students were more motivated in the hybrid-learning environment or the traditional learning environment.

Only one teacher indicated that students were more motivated in the hybrid environment stating, “I think in the hybrid environment they are a little bit more motivated, largely because of the time constraints. They are asked to complete tasks in a limited amount of time.” Two teachers reported that they believed students were more motivated in the traditional classroom, largely due to their availability to students. Five teachers pointed to there being no difference, because it depended on the subject matter being taught during a particular lesson.

Research questions two: What impact do teachers believe a traditional learning environment has on student engagement?

Research question two was answered using data collected from online surveys completed by the teachers and through the interviews of teachers developed and conducted by the researcher. Specifically, questions #16 through #26 and questions #29 and #30 of the teacher survey helped answer research question number two. In addition, questions #2, #4, and #5 of the teacher interview probed for a deeper understanding of teacher perspectives of traditional learning’s impact on student engagement as well as some of the challenges the traditional learning environment presented for student engagement.

Teacher survey results. Question #16 of the teacher survey asked teacher participants to compare the traditional learning environment to the hybrid-learning environment in regards to providing a fair and enjoyable experience. Nine teachers (64.2%) reported that the traditional environment and the hybrid environment were about the same in providing a fair and enjoyable experience. Three teachers (21.4%) indicated that they believed the traditional classroom provided a better environment

for providing a fair and enjoyable experience. Only two teachers (14.2%) argued that the traditional environment was worse.

Questions #17, #20, #21, #23, and #25 of the teacher survey asked teacher participants to measure the number of students developing skills in the traditional learning environment. Eight teachers (57.1%) reported that half of the students in a traditional classroom exhibit high levels of classroom participation in question #17. Four teachers (28.5%) indicated that almost all of their students demonstrated high levels of classroom participation in the traditional setting and only two teachers (14.2%) claimed that not too many students exhibited high levels of classroom participation in the traditional setting.

In question #20, teacher participants were asked to estimate the amount of students who have actually developed higher order thinking skills in the traditional learning environment. Nine teachers (64.2%) reported that about half of their students had developed higher order thinking skills in the traditional setting. Three teachers (21.4%) indicated that almost all of the students in their traditional classrooms had developed higher order thinking skills and only two teachers (14.2%) reported that not many of their students had developed higher order thinking skills.

Question #21 asked teacher participants to estimate the amount of students who were engaged when working independently in the traditional environment. Seven teachers (50%) expressed that about half of their students were engaged when they were working independently in the traditional environment. Likewise, seven teachers (50%) revealed that almost all students were independently engaged in the traditional environment.

In question #23, teacher participants were asked their perceptions of engagement while their students were working collaboratively in the traditional environment. The data collected revealed that nine teachers (64.2%) believed that about half the students in the traditional environment were engaged while working collaboratively while five teachers (35.7%) believed that almost all of their students were engaged while working collaboratively.

Question #25 requested teacher participants to estimate the percentage of students who were motivated to learn in the traditional environment. Ten teachers (71.4%) estimated that about half of their students exhibited high levels of motivation to learn in the traditional classroom. Four teachers (28.5%) reported that almost all of their students in the traditional environment were motivated to learn. Table 4.5 illustrates the data collected from the above referenced questions.

In questions #18, #19, #22, #24, and #26 of the teacher survey, teacher participants were asked to compare the level of skills development in the traditional environment to skills development in the hybrid environment. In question #18 teacher participants were asked to compare the amount of classroom participation in traditional classrooms and hybrid classrooms. Seven teachers (50%) reported that participation is about the same in both settings. Likewise, seven teachers (50%) indicated that participation is better in the traditional environment.

Question #19 asked teacher participants to compare the development of higher order thinking skills in students in the traditional environment versus the hybrid environment. Six teachers (42.8%) reported that the development of higher order thinking skills was about the same in the traditional and hybrid-learning

environments. Eight teachers (57.1%) indicated that the traditional environment was somewhat more effective in helping students develop higher order thinking skills.

Table 4.5

Student Skills Developed in the Traditional Learning Environment

Skill	All	Almost all	About half	Not many	None
17. Participation	0 0%	7 50%	7 50%	0 0%	0 0%
20. Higher order thinking skills	0 0%	8 57.1%	6 43.8%	0 0%	0 0%
21. Independent engagement	0 0%	7 50%	7 50%	0 0%	0 0%
23. Collaborative engagement	0 0%	4 28.5%	10 71.4%	0 0%	0 0%
25. Motivation	0 0%	5 35.7%	7 50%	2 14.2%	0 0%

Note. N=14

Question #22 explored student engagement during independent work, by asking the teacher participants to compare independent engagement in the traditional setting to independent engagement in the hybrid setting. Seven teachers (50%) believed that independent engagement was about the same in the traditional classroom as compared to that of independent engagement in the hybrid classroom. Equally, seven teachers (50%) reported that students were somewhat more engaged when working independently in the traditional setting.

Question #24 explored teacher participants' perceptions on engagement while students were working collaboratively in the traditional classroom setting compared to the hybrid setting. The data demonstrated that 10 teachers (71.4%) expressed that students were engaged while working collaboratively about the same

in both environments. Four teachers (28.5%) believed that students were engaged while working collaboratively somewhat more in the traditional environment.

Question #26 requested that the teacher participants compare the percentage of students who were motivated to learn in the traditional environment to the motivation levels of students in the hybrid-learning environment. Seven teachers (50%) demonstrated the belief that motivation levels for students in both settings were about the same. Five other teachers (35.7%) reported that students were somewhat more motivated in the traditional environment compared to the hybrid classroom. Two teachers (14.2%) believed that students in the traditional setting were somewhat less motivated than students in the hybrid classes. Table 4.6 reflects the data collected from the answers to the above questions.

Open-ended responses. Teacher participants identified what they believed to be positive aspects of student engagement they observed in the traditional learning environment in their responses to question #29 on the teacher survey. Fourteen teachers answered question #29. Several themes emerged as a result of the teachers' responses to question #29. Four teachers reported that students were more engaged when working in a whole group setting in the traditional classroom. Specifically, these teachers pointed out that teacher accessibility was a huge advantage in the traditional setting. One teacher stated, "Students benefit from completing assignments as a whole group where they can ask me questions more easily." Another teacher reported, "Being able to check for understanding as a group lets others listen to mistakes made and further explanation of topics." Three teachers

emphasized the ability to present student feedback as an advantage in the traditional setting.

Table 4.6

Developing Skills in the Traditional Learning Environment Compared to the Hybrid-Learning Environment.

Skill	Significantly better	Better	About the same	Worse	Significantly worse
18. Participation	0 0%	7 50%	7 50%	0 0%	0 0%
19. Higher order thinking skills	0 0%	8 57.1%	6 42.8%	0 0%	0 0%
22. Independent engagement	0 0%	7 50%	7 50%	0 0%	0 0%
24. Collaborative engagement	0 0%	4 28.5%	10 71.4%	0 0%	0 0%
26. Motivation	0 0%	5 35.7%	7 50%	2 14.2%	0 0%

Note. N=14

In particular, one teacher explained, “When I do white boards in the traditional environment every student is working and getting immediate and helpful feedback on mistakes.” Another teacher expounded: “In the traditional classroom students get instant feedback on their mathematics work. Students are more easily redirected. Weaker students can still get the attention they need from the teacher when students are working independently.” Teachers argued that they had a greater ability to monitor student behavior in the traditional setting. Teachers further indicated that having all of the students in front of them in a large group made it easier for them to ensure that students remained on task. One teacher explained, “I make sure all students are participating and on task by using cold call strategies and walking around the room in the traditional learning environment.”

Teacher participants were asked to identify challenges for student engagement they observed in the traditional setting in question #30. Fourteen teachers answered this question. A common theme that emerged was differentiation. Specifically, teachers indicated that differentiating instruction in the traditional classroom is more difficult. One teacher revealed, “Students become bored in the traditional classroom and differentiation is less natural.” Teachers also argued that motivating students in the traditional setting is difficult, particularly in an 80-minute block.

Teacher interview results. Interview questions #2, #4, and #5 probed teacher participants for a deeper understanding of teacher perspectives of the traditional learning environment’s impact on student engagement as well as some of the challenges the traditional learning environment presented for student engagement. Four science teachers and four mathematics teachers were the subjects randomly invited to participate in the interviews. All eight teachers agreed to participate in the interviews.

Interview question #2 asked teacher participants to identify examples of ways in which students were engaged in the traditional classroom. A common theme that emerged was that teachers believed that the traditional setting offered them more of an opportunity to check for understanding. One teacher specified by indicating, “In the traditional environment it is easier to conduct check for understanding activities, such as “cold call” or “random reporter.” Likewise, another teacher explained that having all of the students in front of the teacher provided them with the chance to ensure students were on task. All 14 teachers indicated that monitoring student behavior was easier in the traditional classroom compared to the hybrid environment

because all of the students were in front of the instructor all of the time, whereas two thirds of the time the students were on their own in the hybrid setting.

Interview question #4 asked teacher participants to identify aspects of the traditional learning environment that created challenges for student engagement. All 14 teachers pointed out that differentiating instruction is a challenge in the traditional setting. One teacher explained:

As far as traditional the biggest thing is just being able to differentiate it for the students. They're just so used to: we come in, we do our warm up, we listen to our teacher for x number of minutes, we have some practice problems we do, we go home, and we're seated the whole entire time.

Five teachers indicated that knowing if students were on task and engaged was a challenge. One teacher said, "Some students are very good at 'faking it,' making it appear that they are on task."

Interview question #5 asked teacher participants if their students were more motivated in the hybrid-learning environment or the traditional learning environment. Two teachers reported that they believed their students were more motivated in the traditional learning environment. Five teachers were neutral when asked question #5, indicating that it depended on the subject matter being addressed during a particular lesson. Only one teacher indicated that students were more motivated in the hybrid-learning environment.

Research question three: What impact do students believe a hybrid-learning environment has on student engagement?

Research question three was answered using data collected from online surveys completed by ninth grade mathematics and science students and through the interviews of those students developed and conducted by the researcher. Specifically, questions #3 through #10 and questions #19, #20, and #23 of the student survey helped answer research question three. In addition, questions #1, #3, and #5 of the student interviews probed for a deeper understanding of student perspectives of the hybrid-learning environment's impact on student engagement as well as some of the challenges the hybrid-learning environment presented for student engagement.

Student survey results. Questions #3 and #4 examined student participants' perceptions regarding being prepared to handle different and challenging learning activities in the hybrid-learning environment. Question #3 asked student participants if the hybrid-learning environment made them feel well prepared to handle different and challenging learning activities. Seventy out of the 71 students answered question #3. Thirty-two students (45.7%) felt that they were usually well prepared to handle challenging learning activities in the hybrid environment. Twenty-two students (31.4%) indicated that they were always well prepared. Eleven students (15.7%) reported that they were sometimes well prepared and only five students (7.1%) felt they were rarely well prepared to handle challenging learning activities in the hybrid-learning environment.

In question #4, students were asked to compare the hybrid-learning environment to the traditional learning environment regarding how each setting

prepared them to handle different and challenging learning experiences. All 71 participants responded to this question. Thirty-five students (49.3%) reported that they felt better prepared to handle challenging learning activities in the hybrid-learning environment. Nineteen students (26.7%) indicated that they felt the same level of preparedness in both environments. Thirteen students (18.3%) believed that the hybrid environment prepared them much better to handle difficult learning activities than the traditional environment. Only two students (2.8%) conveyed that they felt worse prepared in the hybrid-learning environment and only two students (2.8%) reported that they felt much worse prepared.

In question #5, student participants were asked to compare the hybrid-learning environment to traditional classrooms in positioning them for the productive use of classroom time. All 71 student participants answered this question. Thirty-two students (45%) indicated that the hybrid classroom positioned them better for the productive use of time. Twenty-four students (33.8%) felt that both environments equally positioned them for the productive use of classroom time. Twelve students (16.9%) believed that the hybrid-learning environment positioned them much better for the productive use of time and only three students (4.2%) indicated that the hybrid classroom positioned them worse for the productive use of classroom time.

Questions #6 and #7 explored students' perceptions of how enjoyable the hybrid-learning environment was for them. Question #6 simply asked students if they enjoyed their hybrid-learning experience. All 71 students answered this question. Thirty-three (46.4%) students reported that they usually enjoyed their experience in the hybrid setting while 18 students (25.3%) indicated they enjoyed their hybrid

experience sometimes. Fourteen students (19.7%) reported that they always enjoyed their hybrid experience. Four students (5.6%) indicated that they never enjoyed the hybrid-learning environment and only two students (2.8%) conveyed that they rarely enjoyed the hybrid-learning classroom. Question #7 requested that students compare their level of enjoyment in the hybrid classroom to that of the traditional learning environment. Seventy of the 71 students answered this question. Twenty-six students (37.1%) reported that they enjoyed both experiences about the same. Twenty-four students (34.2%) indicated that they thought their experience in the hybrid setting was better than that of the traditional, and 16 students (22.8%) argued their experience was much better in the hybrid environment than the traditional setting. Three students (4.2%) felt their experience was worse in the hybrid-learning environment and only one student (1.4%) felt their experience in the hybrid classroom was much worse than that of the traditional classroom.

In questions #8, #9, and #10 student participants were asked to assess skills development in the traditional learning environment. Question #8 requested that student participants evaluate whether or not they were developing higher order thinking skills in the hybrid-learning environment. Seventy out of the 71 student participants answered question #8. Forty-seven students (66.1%) indicated that most often they were developing higher order thinking skills in the hybrid environment. Thirteen students (18.3%) reported that they were not developing higher order thinking skills often in the hybrid classroom. Only one student (1.4%) believed that they were definitely not developing higher order thinking skills in the hybrid-learning

environment. Nine students (12.6%) felt that they definitely were developing higher order thinking skills in the hybrid environment.

Questions #9 and #10 asked student participants specifically about student engagement. Question #9 requested that student participants indicate whether or not they were engaged while working independently in the hybrid-learning environment. Sixty-eight out of the 71 students answered this question. Thirty-five students (53.5%) indicated that most often they were engaged when working independently in the hybrid classroom. Twenty-five students (35.2%) reported that they were definitely engaged when working independently in the hybrid setting. Six students (8.4%) felt that they were not engaged often while working independently and only two students (2.8%) believed that they were definitely not engaged while working independently in the hybrid-learning environment.

Question #10 asked student participants their perception of whether or not they were engaged in the hybrid-learning environment while working collaboratively with their peers. All 71 participants answered question #10. Twenty-nine students (40.8%) reported that they definitely felt engaged while working collaboratively in the hybrid setting. Twenty-seven students (38%) indicated that they were most often engaged while working collaboratively in the hybrid classroom. Eleven students (15.4%) felt that they were not often engaged while working collaboratively while four students (5.6%) felt definitely they were not engaged while working collaboratively in the hybrid-learning environment. Table 4.7 illustrates all of the data collected from these questions.

Table 4.7

Skills Developed in the Hybrid-Learning Environment

Skill	Definitely yes	Yes most often	Not often	Definitely no	No response
8. Higher order thinking skills	9 12.6%	47 66.1%	13 18.3%	1 1.4%	1 1.4%
9. Independent engagement	25 35.2%	35 49.2%	6 8.4%	2 2.8%	3 4.2%
10. Collaborative engagement	29 40.8%	27 38%	11 15.4%	4 5.6%	0 0%

Note. N=71

Open-ended responses. Student participants identified what they believed to be benefits for student engagement that they experienced in the hybrid-learning environment in their responses to question #19. Sixty-two out of 71 student participants answered question #19 and several themes emerged as a result of their responses. Ten students mentioned the word “fun” in their responses. The general perception of students was that the hybrid-learning environment created a more enjoyable experience for students and, therefore, made the time in the classroom seem to go by faster. One student wrote, “It makes school more interesting and fun. Unlike the traditional environment, it provides a new and entertaining way to engage the students in a way that is also educational.”

Five student participants identified the three-station rotation model as a benefit for engagement. Generally, students felt that rotating from one station to another rather than sitting for an entire block, helped to keep them motivated and energetic. One student argued, “You get to move around and so people don't fall asleep in the class.” Students perceived that the rotation model enabled them to more

easily have questions answered, not just by the instructor. One student indicated, “If you don't understand something in the other stations, you can ask someone when you are in the collaboration station.” Furthermore, 16 students reported that they enjoyed the opportunity to intermingle with their classmates more often and in a more productive manner. One student reported, “You get to interact with your classmates and discuss the topics.”

Another common theme that emerged as a result of the answers to question #19 was the concept of time seeming to move by faster. Several student participants reported that the hybrid-learning environment made it feel like time was going by more quickly. One student wrote, “It makes the time go by faster, and it is more fun than traditional classes.” Students described feeling as though there was more time for them to interact with the teacher. Ten students felt that the time with the teacher was increased and of higher quality than in the traditional classroom. As one student indicated, “You get more time with the teacher.”

Student participants were asked to identify challenges for student engagement they experienced in the hybrid-learning setting in question #20. Sixty-one out of 71 student participants answered this question. While 15 students indicated that there were no challenges in the hybrid-learning environment, there were several themes that emerged as a result of question #20. Four students specifically pointed out mathematics as a concern for them. These students indicated that the hybrid environment was working well in science; however, they felt that they needed more teacher attention in mathematics. One student indicated, “I have no problems in science but in math I still struggle to pay attention.” Several students argued that

doing hybrid every day in mathematics tended to become monotonous. One student wrote, “It starts to get tiring.”

Another common theme that emerged was that getting the attention of the teacher was a challenge in the hybrid-learning environment. Six student participants identified this as a challenge to student engagement in the hybrid setting. One student opined, “There's one teacher and there's a teacher section so when he's teaching and I have a question and my peers won't be able to help, I don't like calling the teacher over while he's teaching.” Six students identified the concept of noise and distractions as challenges for student engagement in the hybrid-learning environment. Specifically, students identified the collaborative station as an environment that provided them the opportunity to be off topic and create distractions. One student admitted, “The talking can get me off topic.”

In question #23, student participants reported whether or not they enjoyed the hybrid-learning environment and explained why or why not. Sixty-three out of the 71 participants answered question #23. Of the 63 students, 48 reported that they enjoyed the hybrid setting. Ten students indicated that the reason for enjoying the hybrid classroom is the rotation model. One student wrote, “I get to move around and not just sit there and do one thing the whole time.” Another reason that students alluded to was that the hybrid environment was more fun than the traditional environment. One student stated, “Its fun and something different and refreshing.” Four students made the case that working with technology on a daily basis made the hybrid environment more enjoyable. Specifically, these students expressed that their generation needs to have technology incorporated into the classroom every day. The

last theme that emerged was the idea that in the hybrid classroom time seemed to go faster. Four student participants indicated that this was the reason they enjoyed the hybrid-learning environment.

Student interview results. Interview questions #1, #3, and #5 probed student participants for a deeper understanding of student perspectives of hybrid-learning's impact on student engagement as well as some of the challenges the hybrid-learning environment presented for student engagement.

Interview question #1 asked student participants to provide examples of ways in which they were engaged in the hybrid-learning environment. Six students reported that working with peers at the collaboration station was the most engaging aspect of the hybrid setting. Students felt that collaborating with students with more academic ability or with students who needed assistance was rewarding and fun. One student reported:

In the hybrid learning environment, when you're in a class with smarter students, or students that know their stuff, it's really engaging because they talk to you on the same level as the teacher which is something that I think is a great thing.

Two students indicated that working with technology was a very engaging aspect of the hybrid-learning setting. Specifically, one student said, "We used different websites, highlighted the use of computers for online learning. In science, we watched videos about what we're learning, about chemistry and matter and stuff and then discussed with our peers at the collaborative station." Two students identified the rotation model as the most engaging facet of the hybrid environment. These

students reported that moving from one station to the next helped keep them engaged in the lesson.

Interview question #3 asked student participants to identify examples of ways that the hybrid-learning environment created challenges for student engagement. The most common response was about distractions and poor behavior. Eight students emphasized the difficulties instructors had in monitoring student behavior in the collaborative and independent stations. One student said, “Sometimes if it’s a group of us, we might talk or get distracted, so that could be harder. We might find something that’s more interesting than our work and start talking about that.” Another common theme that emerged as a result of question #3 was the inability of students to have their questions answered in a timely fashion. Four students included this as a challenge in their responses to question #3.

Interview question #5 asked if student participants were more motivated in the hybrid-learning environment or the traditional learning environment and why. Four student participants reported that they believed they were more motivated to learn in the hybrid setting. The reasons ranged from the ability to collaborate with classmates to enjoying the rotation model of instruction. Four students indicated that they were more motivated to learn in the traditional classroom. The reasons ranged from the opportunity to interact with the teacher more often, to being used to the traditional learning environment. Two students remained neutral on the question. One student said, “I am not motivated to learn in either environment.” The other student pointed out that it depended on the subject matter for that particular lesson.

Research question four: What impact do students believe a traditional learning environment has on student engagement?

Research question four was answered using data collected from online surveys completed by ninth grade mathematics and science students and through the interviews of those students developed and conducted by the researcher. Specifically, questions #11 through #21 and questions #22 and #24 of the student survey helped answer research question number four. In addition, questions #2, #4, and #5 of the student interviews probed for a deeper understanding of student perspectives of the traditional learning environment's impact on student engagement as well as some of the challenges the traditional environment presented for student engagement.

Student survey results. Questions #11 and #12 examined students' perceptions regarding being prepared to handle different and challenging learning activities in the traditional learning classroom. Question #11 asked student participants if the traditional environment prepared them to handle different and challenging learning activities. All 71 student participants answered question #11. Thirty-seven students (52.1%) felt that they were usually well prepared to handle challenging learning activities in the traditional environment. Eighteen students (25.3%) indicated that they were always well prepared to handle different and challenging learning activities in the traditional classroom. Fifteen students (21.1%) reported that they were sometimes well prepared and only one student (1.4%) felt they were rarely well prepared to handle challenging learning activities in the traditional learning environment.

In question #12, student participants were asked to compare the traditional learning environment to the hybrid-learning environment regarding how each setting prepares them to handle different and challenging learning experiences. All 71 students responded to this question. Thirty-three students (46.4%) reported that they felt as prepared to handle challenging learning activities in the traditional learning environment as the hybrid environment. Twenty-one students (29.5%) indicated that they felt better prepared in the traditional classroom. Ten students (14%) claimed that the traditional environment prepared them much better to handle difficult learning activities than the hybrid environment. Only seven students (9.8%) conveyed that they felt worse prepared in the traditional learning environment.

In question #13, student participants were asked to compare the traditional learning environment to the hybrid-learning classrooms in positioning them for the productive use of classroom time. Seventy out of 71 student participants answered this question. Thirty-two students (45%) indicated that the traditional classroom positioned them about the same as the hybrid classroom for the productive use of time. Twenty-four students (34.2%) felt that the traditional environments better positioned them for the productive use of classroom time. Six students (8.5%) indicated that the traditional learning environment positioned them much better for the productive use of time. However, six students (8.5%) indicated that the traditional classroom positioned them worse for the productive use of classroom time. Two students (2.8%) reported that the traditional setting positioned them much worse than the hybrid setting for the productive use of time.

Question #14 simply asked student participants if they enjoyed their traditional learning experience. Seventy out of the 71 student participants responded to this question. Twenty-seven (38%) students reported that they sometimes enjoyed their experience in the traditional setting while 24 students (33.8%) indicated they usually enjoyed their traditional experience. Ten students (14%) indicated that they always enjoyed their traditional experience. Eight students (11.2%) conveyed that they rarely enjoyed the traditional learning environment and only one student (1.4%) claimed that they never enjoyed the traditional classroom.

Question #15 asked student participants if the traditional classes provided a fair learning environment. Seventy of the 71 students answered this question. Twenty-nine students (40.8%) reported that the traditional classes sometimes provided a fair learning environment. Twenty-five students (35.2%) indicated that they thought the traditional setting usually did while nine (12.6%) students believed the traditional classroom always provided a fair learning environment. Six students (8.4%) responded that the traditional setting rarely provided a fair environment and just one student (1.4%) indicated that the traditional classroom never provided a fair environment.

In questions #16, #17, and #18 student participants were asked to assess their skills development in the traditional learning environment. Question #16 requested that students assess whether or not they were developing higher order thinking skills in the traditional learning environment. All 71 student participants answered question #16. Forty-four students (67.9%) indicated that most often they were developing higher order thinking skills in the traditional setting, while 14 students (19.7%)

reported that they were not developing these skills. Ten students (14%) felt that they definitely were developing higher order thinking skills in the traditional environment, while three students (4.2%) believed that definitely they were not.

Questions #17 and #18 asked student participants specifically about student engagement in the traditional classroom. Question #17 requested that student participants indicate whether or not they were engaged while working independently in the traditional learning environment. All 71 students answered this question. Forty students (56.3%) indicated that most often they were engaged when working independently in the traditional classroom. Twenty-two students (30.9%) reported that definitely they were engaged when working independently in the traditional setting. Only six students (8.4%) felt that they were not engaged often while working independently and three students (4.2%) believed that they definitely were not engaged while working independently in the traditional learning environment.

Question #18 asked student participants their perception of whether or not they were engaged in the traditional learning environment while working collaboratively with their peers. All 71 participants answered question #18. Forty-two students (59.1%) reported that they felt engaged while working collaboratively in the traditional setting; 16 students (22.5%) indicated that definitely they were engaged. Eleven students (15.4%) believed that they were not often engaged while working collaboratively and only two students (2.8%) felt that they definitely were not engaged while working collaboratively in the traditional learning environment. The data collected from these questions is highlighted in Table 4.8.

Open-ended responses. Student participants identified what they believed to be benefits for student engagement that they experienced in the traditional learning environment in their responses to question #20. Sixty-two out of 71 student participants responded to question #20.

Table 4.8

Skills Development in the Traditional Learning Environment

Skill	Definitely yes	Yes most often	Not often	Definitely no
16. Higher order thinking skills	10 7.1%	44 61.9%	14 19.7%	3 4.2%
17. Independent engagement	22 30.9%	40 56.3%	6 8.4%	3 4.2%
18. Collaborative engagement	16 22.5%	42 59.1%	11 15.4%	2 2.8%

Note. N=71

Several themes emerged as a result of their answers. Fifteen students argued that in the traditional learning environment they had more access to the teacher than in the hybrid-learning environment. One student wrote, “Students are more engaged in learning when the teacher is engaged with all of the students.” Four students indicated that they preferred the help of a live instructor to a computer when they were working independently or in groups.

An additional theme that emerged was the advantage of having everyone on the same page. Seven students felt strongly that this was an advantage the traditional setting had over the hybrid learning-environment. One student indicated, “In the traditional class we can learn, work, and ask questions together.” In the same vein, 10 students felt that peer interaction was a positive benefit in the traditional classroom. These students pointed out that in the traditional setting they were able to

interact with a larger number of people, in particular their classmates. The same students reported that because it was a “regular class”, it was easier to adapt to the instruction. Specifically, one student wrote, “It's more of a regular class and you get to interact with others and I feel it's easier to work this way.”

Student participants were asked to identify the challenges for student engagement they experienced in the traditional learning environment in question #22. Fifty-nine out of 71 student participants answered this question. While there were 10 students who claimed that there were no challenges to student engagement in the traditional setting, several themes did emerge. The most common issue students reported was the amount of distractions that occurred in the traditional learning environment. Fifteen students wrote about being distracted in the traditional setting. Students indicated that it was sometimes difficult to concentrate due to the amount of off topic conversations taking place in the traditional environment. One student indicated, “Students may just talk to their friends instead of work.”

Another theme that developed was that the traditional learning environment was sometimes boring and that they did not enjoy the lecture recitation format. Five students indicated that the traditional environment lacked the ability to maintain student interest. One student reported, “In my opinion, the traditional way of learning is outdated and gets boring really quick. It should be replaced by hybrid or another program.” Likewise, five students pointed out that teacher availability was a challenge for student engagement in the traditional setting. One student wrote, “Students don't get it, so keep asking for help and then the teacher can't help everybody.”

In question #24, student participants reported whether or not they enjoyed the traditional learning environment and explained why or why not. Sixty-one out of 71 student participants responded to question #24. Of the 61 students, 41 indicated that they enjoy their traditional classes. The most common reason was that the teacher was more accessible to students in the traditional learning environment than in the hybrid environment. One student wrote, “Yes, I like the traditional setting because I can ask questions from my teacher rather than being away from her a lot of the time.” Another reason students gave for enjoying the traditional learning environment was that they thought it was easier than the hybrid setting. One student claimed, “I do enjoy traditional classes because it’s easier to do classwork.” Sixteen students indicated that they did not enjoy the traditional setting and every one of them reported that they were bored in the traditional learning environment. Four students remained neutral on the question indicating that it depended largely on the content within the lesson.

Student interview results. Interview questions #2, #4, and #5 probed student participants for a deeper understanding of student perspectives of traditional learning’s impact on student engagement as well as some of the challenges the traditional learning environment presented for student engagement.

Interview question #2 asked student participants to provide examples of ways in which they were engaged in the traditional learning environment. Two of the most common themes that emerged were listening to teacher lectures and taking notes. Additionally, group work, relationship with the teacher, and class discussions were common themes. Four students spoke about feeling engaged when listening to the

teacher lecture about a particular topic. One student of the four argued, “I am an auditory learner; I felt engaged when my teacher would lecture because that is what gets through to me.” Taking notes was another common theme; three students identified this as having been an engaging activity. One of the three students simply reported, “I felt engaged when we were taking notes.” Two students indicated that they were more able to bond with the teacher in the traditional setting than in the hybrid setting. One of the two students said, “In the traditional environment, we had more of a chance to bond with the teacher, and the teacher had more of a chance to get the students engaged into what they were learning about.”

Interview question #4 asked student participants to identify challenges for student engagement in the traditional learning environment. Of the many challenges reported by students, a distraction to the learning environment caused by students was the most common theme. Four students indicated that the most common challenge in the traditional classroom had to do with students talking to one another and being off topic. One of the students said, “When other people want to engage, but nobody raises their hand, and some people just start talking and having their own little side conversations, I find that really distracting.” Other students pointed to the teacher not being well liked and being bored in the traditional environment.

Interview question #5 asked if students were more motivated in the hybrid-learning environment or the traditional learning environment and why. As reported earlier in this chapter, four students reported that they believed they were more motivated to learn in the hybrid setting.

Likewise, four students indicated that they were more motivated to learn in the traditional classroom. Finally, two students remained neutral on the question.

Summary

Teacher and student perceptions of the impact of hybrid and traditional learning environments on student engagement were examined in this chapter. Specifically, the data reported highlighted aspects of both environments that were perceived by teachers and students as engaging and aspects of both environments that presented challenges for student engagement. Fourteen teachers and 71 students completed and submitted online surveys that were designed to capture their perceptions. In addition, eight teachers and 10 students participated in researcher-led interviews that provided participants an opportunity to elaborate more deeply into the topic of student engagement in the hybrid and traditional learning environments.

The data collected through the survey and interview process were organized by each research question. Teacher participants indicated that the hybrid-learning environment provided the students with a setting that made the lessons feel like they were going more quickly, enabling the students to be more engaged. Furthermore, the teacher participants recognized that the rotation model of instruction helped foster an environment of engagement. Similarly, student participants argued that the hybrid environment made class go faster and the rotation model of instruction helped them to stay motivated.

However, teacher participants argued that the hybrid-learning environment did not allow them to provide the one on one attention they felt their students needed. They expressed a concern that students were spending two-thirds of the lesson away

from the instructor. Likewise, student participants pointed to the lack of teacher access in the hybrid-learning environment as a challenge for maintaining a sufficient level of engagement.

Teacher participants argued that the traditional learning environment provided them more of an opportunity to check for understanding and to interact with all of the students, ensuring that everyone was on task. Specifically, teachers reported that monitoring student behavior was easier in the traditional setting. Similarly, student participants pointed out that teacher access in the traditional classroom was better than in the hybrid setting. Everyone being on the “same page” was an important advantage for student engagement as reported by the students.

Teacher participants highlighted that the monotony of the traditional setting could be a challenge for student engagement. Students also indicated that the traditional learning environment was more boring than the hybrid-learning environment, making motivation more difficult in the traditional setting. Chapter Five will discuss the results of this study in detail as well as the limitations of the study, its relationship to other research, and recommendations for further research.

Chapter Five – Discussion

Summary of the Study

Research conducted by Rollins (2014) revealed that motivation is a key factor in turning around students who struggle, noting that motivation is achieved by providing relevant engaging tasks for students. Moreover, Rakes et al. (2006) argued that when teachers integrate technology into the classroom, a constructivist environment can exist, and student engagement occurs. In this information age, it is inevitable to witness technology use in educational settings (Yapici & Akbayin, 2012). Furthermore, hybrid-learning initiatives are vogue in many public school systems, and advocates of the hybrid method argue that this technique is a more student-centered approach to learning (Doering & Veletsianos, 2008). This qualitative study sought to investigate the perceptions of teachers and students regarding the impact of hybrid and traditional learning environments on student engagement. In addition, the research explored the perceived challenges associated with both environments for enhancing student engagement.

The participants of this study were ninth grade science and mathematics teachers and students of one public high school located in southeastern Pennsylvania. The subjects were part of a pilot program in which hybrid-learning and the three-station rotation model were implemented during the 2015-2016 school year.

Fourteen teacher participants and 71 student participants completed an online survey designed to explore their perceptions of the impact of hybrid and traditional learning environments on student engagement. In addition, eight teachers and 10 students participated in follow-up interviews that allowed the participants to elaborate

on their survey responses and provide deeper insights. Each interview occurred in person at the participants' school and was electronically recorded, with the participants' permission, and transcribed. The data that were collected through the surveys and interviews were examined and structured in an approach that attempted to identify developing themes and trends.

The teachers' survey consisted of 26 Likert scale questions and four open-ended questions. In addition, there were six teacher interview questions which were asked in the hope of delving deeper into the data collected through the surveys. The students' survey consisted of 18 Likert scale questions and six open-ended questions. There were six student interview questions which helped enhance the data collected through the surveys.

For the purpose of ensuring reliability in this qualitative study, the researcher created instruments which provided clear and coherent questions and utilized the online survey tool Survey Monkey to create a common platform for volunteer participants. The survey instruments were pilot-tested with teachers from another district that had implemented hybrid-learning and the three-station rotation model. Interview questions were piloted as well. Interviews were administered at the participants' convenience, and in order to create an unthreatening setting, the researcher communicated with all interviewees about the process.

In order to ensure the validity of this qualitative study, the researcher triangulated the data. For this study, the researcher corroborated data collected through a survey which included open-ended questions and interviews.

Summary of the Results

Research question one: What impact do teachers believe a hybrid-learning environment has on student engagement?

Teacher participants were asked to provide feedback on student engagement in the hybrid-learning environment by making several estimations. They assessed if the hybrid setting was a fair and enjoyable experience, the amount of class participation, the development of higher order thinking skills, the amount of independent engagement, and the extent of collaborative engagement and motivation to learn.

Teachers indicated that the hybrid-learning environment did offer a fair and enjoyable experience. Several teachers indicated that students enjoyed the rotation model of instruction because it enabled them to have the opportunity to move around the classroom. Several teachers reported that students appreciated the use of technology at the independent station. These data demonstrate that students feel more successful when there is the opportunity to move about the classroom and use technology as opposed to being sedentary and listening to a lecture for a full lesson.

While most teachers demonstrated a belief that students enjoyed the hybrid experience, they only moderately indicated that students showed high levels of class participation. The teachers indicated that the highest level of class participation was the direct instruction station where students had their instructor in front of them lecturing. A majority of the teachers reported that they were unsure and unable to determine if participation at the collaborative and independent stations was genuine and meaningful. These data may imply that teachers have an apprehension to allow

students to be on their own and guide their own learning for fear of losing control. Furthermore, the data suggest that teachers believe that students are unable to develop higher order thinking skills without teacher influence.

Student engagement was estimated by asking for teachers' perceptions in two different conditions, independent and collaborative. Most teacher participants indicated that while students were working independently, less than half of them were engaged in the hybrid-learning environment. Teachers also believed that students with higher academic ability seemed to be more engaged independently. The data demonstrate that teachers believe that engagement is dependent upon the instructor. Furthermore, one can infer from the data that teachers do not trust students to lead their own learning when working independently or collaboratively with peers.

The data highlighted a belief that a majority of students did enjoy the hybrid environment; however, that enjoyment did not translate into motivation. In fact, many teachers reported feeling as though those students who fell behind had the tendency to give up. Teachers also believed that students lacked motivation in any environment.

The teacher participants identified several positive aspects of student engagement in the hybrid-learning environment. The most prevalent theme was the belief that students felt as if their classes were moving more quickly and were a more enjoyable experience in the hybrid-learning environments. Teachers acknowledged that, through the use of technology, students had the opportunity to view content in a different way and also the students were to conduct independent research which fostered the skill to learn in a more independent setting. These data revealed that

teachers admit that their students were on task when they implemented the three station rotation model and that the lesson seemed to move more quickly; however, throughout the surveys and interviews, teachers continued to maintain that students needed the teacher to be in front of them in order to ensure that they were engaged. Teachers acknowledged that providing students the opportunity to use technology through online learning was engaging, but again were often hesitant to admit that students could be engaged without the teacher controlling the lesson.

The data suggest that it is difficult for teachers to accept that many students can and will learn material on their own with the proper guidance. Perhaps teachers are reluctant for fear of losing control of the class, or perhaps there is a deeper issue. Conceivably, there could be an underlying fear of becoming irrelevant for student learning. These data could indicate that teachers need more professional development in the area of releasing students to learn on their own.

The teachers identified two challenges for student engagement in the hybrid-learning environment. Teachers indicated that the independent station in particular was a concern. They maintained that monitoring student behavior and progress was much more difficult in the hybrid setting as compared to the traditional setting. This further implies that teachers need more training in developing strategies for ensuring on task behavior at the independent and collaborative stations.

The teachers contradicted themselves often when reporting about stations that occurred away from the instructor. While they admitted that students seemed engaged, they grappled with the notion that students could be “faking it.”

Research questions two: What impact do teachers believe a traditional learning environment has on student engagement?

When asked to compare the traditional environment to the hybrid environment, more teachers indicated that the traditional setting provided students a fairer and more enjoyable experience than the hybrid setting. Teachers also demonstrated the belief that class participation was greater in the traditional classes than the hybrid classes. Teachers reported that more students participated in the traditional setting than the hybrid setting, citing the inability of the students to access the teacher during a hybrid lesson. There could be a feeling of being comfortable in the traditional setting that influenced the manner in which some teachers responded, or it could be that seeing students in front of them offers a security and safeness that the hybrid-learning environment cannot provide.

Student engagement was measured by asking for teachers' perceptions during independent and collaborative learning. Teachers reported that students were engaged in the traditional classroom when working independently. They argued that because the students were in front of them throughout the entire lesson, they had a greater ability to ensure students were on task and therefore engaged. A majority of teachers expressed the belief that their students exhibited high levels of motivation to learn in the traditional classroom setting. Yet again, these data revealed that teachers do not trust that students can gain the ability to develop higher order thinking skills without the instructor's assistance.

The teacher participants identified several positive aspects of student engagement in the traditional learning environment. The most common theme that

emerged was that students appeared to be more engaged in the whole group setting than in the stations. Teachers reported that the traditional setting provided students with more teacher accessibility than the hybrid setting. Furthermore, they conveyed that the traditional classroom gave the teachers a better opportunity to provide timely feedback to students. Teachers felt that it was easier to monitor student behavior and progress in the traditional classroom environment which helped to ensure engagement. This information further highlights the belief that students cannot be engaged without the teacher.

In addition, the teachers identified several challenges for student engagement in the traditional learning environment. Differentiating instruction was the most common response when asked about challenges to student engagement in the traditional learning environment. While teachers maintained that having everyone on the “same page” was a benefit, not being able to meet individual needs was reported as a challenge in the traditional classroom. Interestingly, teachers contradicted themselves by acknowledging the difficulties they experienced in the traditional setting regarding differentiation. The implications are clear; teachers understand the importance of meeting student needs through differentiation but do not believe students can accomplish this on their own. It was evident that teacher participants preferred teaching in the traditional setting versus the hybrid-learning environment. Furthermore, they believed that they had a greater ability to influence student engagement in the traditional setting. The prevailing concern expressed by teacher participants was their inability to monitor progress and behavior when students are not in front of them two-thirds of the time.

Ultimately, in order to allow for self guided exploration and learning, further professional development and experience with the hybrid-learning model is required for teachers to feel more confident in their ability to let go of some of the control.

Research question three: What impact do students believe a hybrid-learning environment has on student engagement?

Just as teachers were asked to assess various aspects of the classroom environment that factored into measuring student engagement so too were ninth grade mathematic and science student participants. Students were asked to explain if the hybrid environment prepared them for different and challenging learning activities. Overall, students responded positively to this inquiry. The vast majority of students felt that the hybrid classroom prepared them for challenging activities better than the traditional environment. Students indicated that the hybrid environment positioned them for better use of classroom time than the traditional environment. Students explained that being able to rotate from one station to the other offered them the opportunity to interact with their classmates on problem solving activities and provided them the chance to move at their own pace at the independent station while using devices for online assignments.

Almost all students indicated that the hybrid-learning environment provided them with an enjoyable experience. Many students cited the use of technology and the opportunity to work collaboratively with their peers as the reason. In fact, over half of the students reported that the hybrid-learning environment provided a more enjoyable experience than the traditional learning environment. A majority of students indicated that they were developing higher order thinking skills in the

hybrid-learning environment. This was in stark contrast to the teachers' perceptions that indicated that they believed the hybrid classroom was not conducive for cultivating higher order thinking skills in students. This contradiction in perceptions implies that students are more prepared for the future of education than our teaching professionals and that further training and possibly a change in belief systems are a must.

When questioned about student engagement directly, students reported that while working independently they felt as if they were engaged. Most students also indicated that they felt engaged while working collaboratively. Many offered the collaborative problem solving that occurred in the hybrid environment as evidence of student engagement.

Students felt that the hybrid environment was less effective in mathematics because they needed more time with the teacher. These data may imply that mathematics may not be the ideal subject matter in which to implement hybrid learning. Lastly, students did point out that the hybrid environment caused the classroom to be much noisier, sometimes creating an obstacle for student engagement.

Research question four: What impact do students believe a traditional learning environment has on student engagement?

Similar to the way students felt about the hybrid-learning environment preparing them for new and challenging learning activities, these students demonstrated that they believed the traditional learning environment prepared them for these kinds of undertakings. Overwhelmingly, students felt that the traditional

environment usually prepared them for challenging learning experiences. They demonstrated the belief that the traditional learning environment does provide a fair experience. Similar to the way they felt about the development of higher order thinking skills in the hybrid setting, students reported feeling that they were developing higher order thinking skills in the traditional setting. The data imply that students believe that both environments offer similar advantages in terms of use of time, development of higher order think skills, and enjoyment. When asked specifically about engagement in the traditional learning environment, many student participants reported feeling engaged in the traditional setting while working independently. A majority of students indicated that they felt engaged while working collaboratively.

Students highlighted challenges for student engagement in the traditional setting. The most common theme that emerged was the amount of distraction that occurred in the traditional environment. Students indicated that the behavior of students in the traditional setting made it difficult to concentrate on the lesson and the instructor, implying that students were less engaged in learning in the traditional setting. Student participants also reported that it was difficult to maintain interest in the traditional environment. Specifically, listening to lectures for a full block of time was cited as a teaching strategy that made motivation and attention a challenge.

Overall, students favored the hybrid environment over the traditional. The differences in perceptions imply that teachers need to embrace the idea of differentiating instruction through the use of online learning for the present and future.

Limitations Found in the Study

There were several limitations to this study. One limitation was that the researcher designed the instruments used to collect data according to general rules of survey design. Due to the limited availability of research in the area of hybrid learning which occurs in the classroom, there were no existing surveys with proven validity and reliability.

The data gathered for this study were from one high school. The research took place with 14 teachers which provided limited perspectives from the instructors' point of view. They were teachers who had only taught in a traditional environment in the past and, therefore, the results may have been skewed. Furthermore, student participants were only from ninth grade mathematics and science classes which limited student perspectives. In addition, these students were part of a pilot program and had never before experienced the hybrid-learning environment.

Moreover, there is the question of transferability or generalizability, as there is for all qualitative research. As Marshall and Rossman (2006) explained, qualitative studies' generalizability may be problematic. They pointed out that research analysts see generalizing qualitative studies to other populations and settings as a flaw to the approach. As an example, this study focused on one specific population of students and teachers and therefore generalizing this study to other populations could be difficult

Relationship to Other Research

This study focused on the perceptions of teachers and students regarding the impact of the hybrid and traditional learning environments on student engagement.

While research regarding distance learning and hybrid instruction exists, little research has been conducted to explore the perceptions of students and teachers when students participate in online learning as part of a daily lesson in the presence of the instructor (Staker et al., 2012). There is no clear research evidence in a public school setting of the effectiveness of hybrid-learning as an instructional model that includes online learning with face-to-face instruction (The Learning Accelerator, 2015). However, much research exists in the way of student engagement, use of technology in the classroom, and the benefits of online learning for student success.

Himmele and Himmele (2011) maintained that the more they observed teachers, the more convinced they became that those teachers who ensured that students were actively engaged in the content were successful in getting their students to achieve. Martin and Furr (2010) defined student engagement by describing a classroom which encourages a learner centered approach, where students are active participants in their own learning, where teachers are facilitators rather than lecturers, and students feel safe to take academic risks without fear of failure. They reported that students consistently claimed that personal connections to learning were key to their identifying with the material. Students from this study clearly indicated that they felt their needs were being met in the independent station in the hybrid environment. This station was a learner-centered strategy that offered students the opportunity to study at their own pace and level.

Scherer (2010) described engagement as every student leaning forward, interacting with another student or the teacher, or interacting with the content in some way. Scherer further argued that engagement is not about entertainment, but rather

about engaging the brain. The use of technology, therefore, provides instructors with more opportunities to engage their students by proposing choice to them, ensuring that assignments are at the appropriate level, and taking prior learning and knowledge into consideration (Sherer, 2010). In the hybrid-learning environment students were offered the opportunity to work with other students in the collaborative station and reported that this strategy was a successful engagement tool. Furthermore, both teachers and students reported the independent station as a successful strategy for engagement; specifically, the chance for students to learn using websites chosen by students. Devices provided teachers the tools they needed to give students that choice so integral for engagement. Edmunds and Li (2005) argued that the use of technology in the classroom aided the instructor in motivating students. The perceptions of the hybrid ninth grade mathematics and science students were that the computer provided instant, unbiased feedback to them. Teachers and students overwhelmingly reported that the implementation of computer-based instruction was a successful motivation tool for students.

However, there are still obstacles facing the implementation of technology in the classroom. Strudler et al. (2000) reported on some of those obstacles to incorporating technology into the classroom. Specifically, they stated that teacher training and professional development are lacking in the area of integrating technology in the classroom. Likewise, technology integration needs to be woven throughout a student's academic day. Research was cited regarding first year teachers' beliefs that they were not adequately prepared for technology integration. Many teachers surveyed indicated that they use technology in preparation for their

daily duties; however, they do not integrate it effectively in their lessons (Strudler et al., 2000). In this study, teachers indicated that implementing technology in their lessons was difficult. They feared that allowing students to use the devices for a third of the lesson was preventing them from covering the material. Furthermore, teachers reported that because students were only using technology in the hybrid classroom, it became a distraction rather than an instructional tool. The implication is that teachers need more professional development regarding the implementation of technology in daily lessons. Strudler et al. (2000) stated that teacher training and professional development are lacking in the area of integrating technology in the classroom.

Much research has been done regarding the benefits of online learning for high school students. The presence of online learning does not put into question the existence of teachers or educational institutions; they should co-exist (Kerres & DeWitt, 2003). Kerres and DeWitt (2003) indicated that in many cases face-to-face interaction is a necessary ingredient to the successful implementation of a hybrid-learning program. In this hybrid-learning model students are provided with the opportunity to have direct instruction, collaborative work, and independent online learning through the use of a device. The data from this study support Kerres and DeWitt's assertion that face-to-face instruction is an important component of any lesson. Both teachers and students reported the need for teacher access in a lesson.

Recommendations for Further Research

Instructors who ensure that their students are actively engaged in the content found the most success in student engagement and academic achievement (Himmele & Himmele, 2011). However, there is a gap in the research concerning online

learning in the classroom as part of a larger strategy for student engagement (Staker et al., 2012). There is even less research regarding academic achievement or growth as a result of implementing hybrid-learning in the classroom. Furthermore, the data from this study indicate that more professional development in the area of hybrid-learning is warranted. Specifically, the following topics may be considered for further research:

1. A study of the impact of the hybrid-learning environment on student achievement.
2. A study on the impact of the hybrid-learning environment on student motivation.
3. A study on the impact of professional development of teachers in the area of hybrid-learning initiatives.

Conclusion

This study was designed to examine the perceptions of teachers and students on the impact of the hybrid and traditional learning environments on student engagement. The data of the study were collected through surveys and interviews of teachers and students and were presented in a narrative discussion organized by the four research questions of the study.

The results of the study revealed that the teachers in the hybrid environment perceived that there were many concerns regarding the implementation of this strategy in regards to student engagement. Primary among the concerns was the notion of students not being in front of the teacher for two-thirds of the lesson. The fact that students were on their own to that extent, caused teachers to question their

own ability to monitor student behavior and progress in the hybrid-learning environment. In contrast, teachers clearly indicated that they believed that the traditional learning environment provided a much better setting to ensure student achievement. This fact clearly indicates that further training is necessary for teachers to feel comfortable allowing students to take more ownership of their own learning.

Interestingly, the data collected from the students indicated a very different tale. Students reported the ability to enjoy the hybrid-learning environment and have a high level of motivation. In contrast, student participants found the traditional environment to be boring. While many teachers from this study suggested that the traditional environment was a better tool for student engagement, the data from teachers did reveal some positive aspects of hybrid-learning. Teachers believed that students enjoyed the hybrid classroom more than the traditional and that as they themselves became used to the strategy, they felt more confident. The data collected from students and the research presented leads this researcher to believe further investment in hybrid-learning is warranted. However, it is also clear that there is a great need for more and better professional development for teachers.

This study reflected the perceptions of teachers and students of one high school in southeastern Pennsylvania on the impact of the hybrid and traditional learning environments on student engagement. While the findings may not be generalized to all teachers and students involved with hybrid-learning, the information attained from the study helped to add to the research that currently exists in the area of hybrid instruction. As a variety of online instruction including hybrid-learning, blended learning, and distance learning continues to grow nationally, it is

important that research continues in order to provide teachers information that will enable them to provide high level instruction to all students. The idea that students are unable to guide their own learning is one which teachers of the 21st century will need to eliminate, if students are going to be engaged in the future.

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Appendix A

Teacher Survey

- 1. Please click the appropriate selection below to indicate whether you give consent to participate in this voluntary study. Please note that giving consent to participate does not waive any of your legal rights.**
 - I hereby voluntarily agree to participate in this study with the understanding that every effort will be made to ensure the confidentiality of my responses to this survey to the degree permitted by technology use.
 - I do not agree and choose not to participate in this study. (Please exit this survey by clicking on the “Exit this survey” button at the bottom of this page).

- 2. How many years experience do you have as a teacher in public schools?**
 - 1-5 years
 - 6-10 years
 - 11-15 years
 - 15+ years

- 3. Subject taught?**
 - Mathematics
 - Science

- 4. Highest Degree Earned?**
 - Bachelors Degree
 - Bachelors +
 - Masters Degree
 - Masters +
 - Doctorate

- 5. How does the hybrid environment compare to more traditional classroom settings in providing a fair and enjoyable experience? Hybrid is:**
 - Significantly better
 - Better
 - About the same
 - Worse
 - Significantly worse

- 6. Estimate the amount of students who exhibit high levels of class participation in the hybrid environment:**
- All
 - Almost all
 - About half
 - Not many
 - None
- 7. Do you notice any difference in classroom participation in the hybrid environment compared to more traditional classroom settings? Participation is:**
- Significantly better
 - Somewhat better
 - About the same
 - Somewhat worse
 - Significantly worse
- 8. Do you notice a difference in the development of higher order thinking skills among students using hybrid learning compared to more traditional classes? (e.g., analysis, synthesis and evaluation of information). Hybrid is:**
- Significantly more effective
 - Somewhat more effective
 - About the same
 - Somewhat less effective
 - Significantly less effective
- 9. Estimate the amount of your students who are developing their higher order thinking skills in hybrid classes (e.g., analysis, synthesis and evaluation of information).**
- All
 - Almost all
 - About half
 - Not many
 - None

10. Estimate the amount of students who are engaged when working independently in a hybrid class.

- All
- Almost all
- About half
- Not many
- None

11. Do you notice a difference in the ability of students in the hybrid setting to be engaged independently compared to those in traditional settings? Students in the hybrid environment have:

- Significantly more able to participate
- Somewhat more able to participate
- About the same
- Somewhat less able to participate
- Significantly less able to participate

12. Estimate the percentage of students who are engaged when working collaboratively with peers and on problem-based assignments in the hybrid setting.

- All
- Almost all
- About half
- Not many
- None

13. Do you notice a difference in the ability to work collaboratively among students in hybrid classrooms compared to those in traditional settings? Hybrid students have:

- Significantly more able to work collaboratively
- Somewhat more able to work collaboratively
- About the same
- Somewhat less able to work collaboratively
- Significantly less able to work collaboratively

14. Estimate the percentage of students who are motivated to learn in the hybrid environment.

- All
- Almost all
- About half
- Not many
- None

15. Do you notice a difference in the level of motivation to learn in the hybrid environment compared to those in traditional settings (e.g., attendance, time on task, work completion, participation)? Students in the hybrid learning environment are:

- Significantly more motivated
- Somewhat more motivated
- About the same
- Somewhat less motivated
- Significantly less motivated

16. How does the traditional environment compare to the hybrid environment in providing a fair and enjoyable experience? Traditional is:

- Significantly better
- Better
- About the same
- Worse
- Significantly worse

17. Estimate the amount of students who exhibit high levels of class participation in the traditional environment:

- All
- Almost all
- About half
- Not many
- None

18. Do you notice any difference in classroom participation in the traditional environment compared to the hybrid environment? Participation is:

- Significantly better
- Somewhat better
- About the same
- Somewhat worse
- Significantly worse

19. Do you notice a difference in the development of higher order thinking skills among students using traditional learning compared to hybrid classes? Traditional is:

- Significantly more effective
- Somewhat more effective
- About the same
- Somewhat less effective
- Significantly less effective

20. Estimate the amount of your students who are developing their higher order thinking skills in traditional classes (e.g., analysis, synthesis and evaluation of information).

- All
- Almost all
- About half
- Not many
- None

21. Estimate the amount of students who are engaged when working independently in a traditional class.

- All
- Almost all
- About half
- Not many
- None

22. Do you notice a difference in the ability of students in traditional classes to be engaged independently compared to those in the hybrid settings? Students in traditional classes have:

- Significantly more able to be engaged independently
- Somewhat more engaged independently
- About the same
- Somewhat less engaged independently
- Significantly less engaged independently

23. Estimate the percentage of students who are engaged when working collaboratively with peers and on problem-based assignments in the traditional setting.

- All
- Almost all
- About half
- Not many
- None

24. Do you notice a difference in the ability to work collaboratively among students in traditional classrooms compared to those in the hybrid settings? Students in traditional classes have:

- Significantly more able to work collaboratively
- Somewhat more able to work collaboratively
- About the same
- Somewhat less able to work collaboratively
- Significantly less able to work collaboratively

25. Estimate the percentage of students who are motivated to learn in the traditional environment.

- All
- Almost all
- About half
- Not many
- None

26. Do you notice a difference in the level of motivation to learn in the traditional environment compared to those in the hybrid settings? Students in traditional classes are:

- Significantly more motivated
- Somewhat more motivated
- About the same
- Somewhat less motivated
- Significantly less motivated

Open-ended Questions

27. What positive aspects of student engagement have you observed in the hybrid learning environment?

28. What are some of challenges for student engagement that you have observed in your hybrid learning environment?

- 29. What are some benefits for student engagement that you observed in your traditional classes?**
- 30. What are some challenges for student engagement that you observed in your traditional classes?**

Appendix B

Student Survey

- 1. Please click the appropriate selection below to indicate whether you give consent to participate in this voluntary study. Please note that giving consent to participate in this study will not waive any of your legal rights.**
 - I hereby agree to participate in this study with the understanding that every effort will be made to ensure the confidentiality of my responses to this survey to the degree permitted by the technology used
 - I do not agree and choose not to participate in this study. (Please exit this survey by clicking on the “Exit this survey” button located at the bottom of this page).

- 2. For which class were you in a hybrid learning environment?**
 - Mathematics
 - Science
 - Both

- 3. Do you feel well prepared to handle different and challenging learning activities in the hybrid learning environment?**
 - Always
 - Usually
 - Sometimes
 - Rarely
 - Never

- 4. How does the hybrid environment compare to traditional classes in preparing you for challenging learning activities? Hybrid prepares me:**
 - Much better
 - Better
 - About the same
 - Worse
 - Much worse

- 5. How does the hybrid environment compare to traditional classes in positioning you for the productive use of classroom time? Hybrid positions me:**
- Much better
 - Better
 - About the same
 - Worse
 - Much worse
- 6. Do you enjoy your hybrid class or classes?**
- Always
 - Usually
 - Sometimes
 - Rarely
 - Never
- 7. How does the hybrid environment compare to traditional classes in providing a fair and enjoyable classroom experience? Hybrid is:**
- Much better
 - Better
 - About the same
 - Worse
 - Much worse
- 8. Are you developing higher order thinking skills in the hybrid learning environment (e.g., analysis, synthesis, and evaluation of information)?**
- Definitely yes
 - Yes most often
 - No not often
 - Definitely no
- 9. Are you engaged when working independently in the hybrid learning environment?**
- Definitely yes
 - Yes most often
 - No not often
 - Definitely no

10. Are you engaged when working in a collaborative setting with your peers in the hybrid learning environment?

- Definitely yes
- Yes most often
- No not often
- Definitely no

11. Do you feel well prepared to handle different and challenging learning activities in the traditional learning environment?

- Always
- Usually
- Sometimes
- Rarely
- Never

12. How does the traditional learning environment compare to hybrid classes in preparing you for challenging learning activities?

Traditional Classes prepare me:

- Much better
- Better
- About the same
- Worse
- Much worse

13. How does the traditional learning environment compare to the hybrid learning environment in positioning you for the productive use of classroom time? A traditional learning environment positions me:

- Much better
- Better
- About the same
- Worse
- Much worse

14. Do you enjoy your traditional class or classes?

- Always
- Usually
- Sometimes
- Rarely
- Never

15. Do you think traditional classes provide a fair learning environment?

- Always
- Usually
- Sometimes
- Rarely
- Never

16. Are you developing higher order thinking skills in the traditional learning environment (e.g., analysis, synthesis, and evaluation of information)?

- Definitely yes
- Yes
- No
- Definitely no

17. Are you engaged when working independently in the traditional learning environment?

- Definitely yes
- Yes
- No
- Definitely no

18. Are you engaged when working in a collaborative setting with your peers in the traditional learning environment?

- Definitely yes
- Yes
- No
- Definitely no

Open-ended Questions

19. What are some benefits for student engagement that you have experienced in your hybrid classes?

20. What are some of challenges for student engagement that you have experienced in your hybrid classes?

21. What are some benefits for student engagement that you have experienced in your traditional classes?

22. What are some challenges for student engagement that you have experienced in your traditional classes?

23. Do you enjoy your hybrid class or classes? Why or why not?

24. Do you enjoy your traditional classes? Why or why not?

Appendix C

Teacher Interview Questions

1. Can you provide examples of ways in which students were engaged in the hybrid learning environment?
2. Can you provide examples of ways in which students were engaged in the traditional learning environment?
3. What aspects of the hybrid learning environment do you believe created challenges for student engagement?
4. What aspects of the traditional learning environment do you believe created challenges for student engagement?
5. Do you believe that your students were more motivated in the hybrid learning environment or in the traditional learning environment? Why?
6. Do you have any other comments regarding the effectiveness of hybrid and traditional learning for student engagement?

Appendix D

Student Interview Questions

1. Can you provide examples of ways in which you were engaged in the hybrid learning environment?
2. Can you provide examples of ways in which you were engaged in the traditional learning environment?
3. What aspects of the hybrid learning environment do you believe created challenges to being an engaged learner?
4. What aspects of the traditional learning environment do you believe created challenges to being an engaged learner?
5. Do you believe that you were more motivated in the hybrid learning environment or in the traditional learning environment? Why?
6. Do you have any other comments regarding the effectiveness of hybrid and traditional learning for student engagement?

Appendix E

IMMACULATA UNIVERSITY RESEARCH ETHICS REVIEW BOARD REQUEST FOR PROTOCOL REVIEW--REVIEWER'S COMMENTS FORM (R1297)

Name of Researcher: Gregory Manfre

Project Title: The Impact on Student Engagement of Traditional Learning and Blended Learning Approaches

Reviewer's Comments

Your proposal is **Approved**. You may begin your research or collect your data.

PLEASE NOTE THAT THIS APPROVAL IS VALID FOR ONE YEAR (**365 days**) FROM DATE OF SIGNING.

Reviewer's Recommendations:

<input type="checkbox"/> Exempt <input type="checkbox"/> Expedited <input type="checkbox"/> Full Review	<input checked="" type="checkbox"/> Approved <input type="checkbox"/> Conditionally Approve <input type="checkbox"/> Do Not Approve
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Thomas F. O'Brien

December 21, 2015

Thomas F. O'Brien, Ph.D., Ed.D.
Chair, Research Ethics Review Board

DATE