Walden University

College of Education

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Darren Chase Crutcher

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Walden University
2019

Abstract

Gifted Students in Poverty's Perceptions of Blended Learning

by

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EdS, Valdosta State University, 2015

MEd, University of Tennessee at Chattanooga, 2001

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Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

Students who are raised in poverty and are not adapted to technology use have less positive learning experiences with technology usage than other students. The purpose of this qualitative study was to explore students' perceptions of blended learning among gifted students who are enrolled in the free and reduced lunch program in a public high school district in the southeastern United States. Davis's version of the technology acceptance model was used as the conceptual framework. The research questions explored the perceptions of these gifted students when they are taught using blended learning in terms of their attitudes, perceived usefulness, perceived ease of use, and behavioral intentions. For this exploratory case study, interviews were conducted with 10 gifted high school students. After manual and digital coding, the emergent themes were an overall positive perception of blended learning. The participants had a positive attitude toward educational technology and also an overwhelmingly positive outlook on behavioral intentions of using education technology. The participants also felt that the perceived usefulness and the perceived ease of use of blended learning platforms were attainable for them. This research may encourage positive social change by providing a needed resource for teachers, parents, and technology coordinators who work in low socioeconomic areas because there is very little research on gifted students in poverty and their use of blended learning. The results of this study indicate that students in poverty could use blended learning for gifted programs and advanced courses that might not be available at their local school in a low-income area.

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Chapter 1: Introduction to the Study

Introduction

Blended learning has gained traction as an effective way for students to learn; however, not all students learn the same way (Fairchild, 2015). As compared to middle and high socioeconomic students, low socioeconomic students are not exposed to the same language and cognitive stimulation in the community and home (Pace, Luo, Hirsh-Pasek, & Golinkoff, 2017). Children in poverty tend to live in survival mode, prefer to build relationships, and gravitate toward entertainment (Payne, 2018). Middle-class students tend to live in a work mode, prefer to perform to achievement and success, while gravitating toward material security (Payne, 2018). Rideout and Katz (2016) stated that low to moderate income families have serious connectivity issues for technology, whether these are due to data limits, lack of payments, or too many people sharing a device, and are far less likely to access technology at home for educational purposes.

Blended learning has become popular in classrooms through its mixture of face-to-face instruction and the use of student-centered technology-based lessons (Halverson, Spring, Huyett, Henrie, & Graham, 2017). The blended learning model has grown in popularity with teachers attempting to find student engagement opportunities while using technology (Halverson et al., 2017; Hinkelman, 2018). The Georgia Standards of Excellence are educational standards that have embedded technology standards in core contents that are included to ensure the use of technology in the classrooms which can be met by blended learning (Georgia Standards of Excellence, 2015). Students whose families live under the poverty line, as set by the U.S. Department of Health and Human

Services, do not have the same access to technology as those more privileged; therefore, the effectiveness for blended learning for students in poverty, in particular gifted students, should be questioned (Milner, Cunningham, Murray, & Alvarez, 2017).

Gifted students in poverty are a demographic that has a significant gap in educational research, as well as research on blended learning with the gifted. This qualitative case study could allow stakeholders to study student perceptions of blended learning, especially when this demographic may not have the experience on educational technology platforms and hardware compared with other students from different backgrounds. Through this study, positive social change and social awareness was achieved by assisting gifted students in poverty to learn to the best of their ability with the proper resources.

In this chapter, I discuss the background of this study which includes a brief introduction of the stakeholders and demographics. The problem and purpose of the study are stated. The research question and its subquestions are labeled. The conceptual framework of the technology acceptance model is discussed, as is the nature of this exploratory case study. After the assumptions and limitations of the research are examined, the significance of the study is explained.

Background

Blended learning is a pedagogical method where traditional face-to-face learning is combined with technology-based student-centered learning (Fairchild, 2015). Blended learning in classrooms is learning through technology while being integrated with face-to-face teaching where the teacher is facilitating student understanding in learning basic

concepts of a lesson. Students then acquire the concepts through student-centered learning with the assistance of technological platforms (Fairchild, 2015). With national and state standards focusing on the classrooms of tomorrow with technology standards, students and teachers can use blended learning to meet the standards by using technology in multiple ways and formats in all content areas (Common Core State Standards Initiative, 2019). Blended learning thrives as students become engaged with their learning through technology (United States Department of Education, 2017).

Students who live at or below the poverty line tend to not have the educational experiences as those who are not at or below the poverty line (Duchaine & Fain, 2018; Rideout & Katz, 2016; Westwood, 2018). Because of different educational experiences, students of all demographics have different preferences in how they learn (Duchaine & Fain, 2018; Rideout & Katz, 2016; Westwood, 2018). Educational differences remain when discussing educational experiences through educational technology and learning through technology. Those students who live in poverty can experience challenges with blended learning outside of school due to issues connecting with the Internet (Rideout & Katz, 2016; Zielezinski & Darling-Hammond, 2016). Due to connectability issues for low-income students, Plucker and Callahan (2014) stated there is a lack of attention put toward the student's preferred way of learning in using educational technology with low socioeconomic gifted students. Worrell (2014) also claimed the research in the field of educational technology for the area of gifted students who live below the poverty line is insufficient.

During the literature review process, I spent significant time analyzing studies of gifted students, their learning styles, and the process of identifying gifted students. Researchers have shown there is no uniform process of identifying gifted students (Merrotsy, 2017; National Association of Gifted Children, 2015; Robinson, 2017). Some states continue to label gifted students through IQ scores, while others go through a nomination process that literature states as bias (Merrotsy, 2017; National Association of Gifted Children, 2015; Robinson, 2017; Wai & Worrell, 2016). The biased nature of the identification process is evident when students of poverty are evaluated. The nomination process often involves a content test, motivation test, and a creativity assessment. Of the tests in the nomination process, many of the students of poverty have not had the educational experiences and opportunities to score high enough to pass assessments which would result in being labeled gifted (Clark, 2013; Rimm, Siegle, & Davis, 2017; Robinson, 2017; Wai & Worrell, 2016).

There are several gaps in the literature that were identified during the literary review process. According to Sparks' (2015) research on blended learning pedagogy and the Pulham and Graham (2018), there is a gap in the study of blended learning for K12 students. Sparks stated that most studies on blended learning included adult learners and college students. The few studies that were conducted on K12 students did not provide research that would assist the stakeholders of this study on the gifted students in poverty. VanTassel-Baska and Hubbard (2016) found studies on gifted students in poverty that were thought of as seminal were outdated, thus leaving less relevant information on the target demographic of the study (Rural Poverty Research Center, 2004; Stambaugh,

2010). Studies that dealt with race and inner-city gifted students of poverty were in elementary or the middle school grades (Colangelo, Assouline, & New, 2006; Stambaugh, 2010; Stambaugh & Wood, 2015). Therefore, this left a lack of studies of secondary students who are labeled gifted, live in poverty, and are enrolled in blended learning courses or courses that use blended learning. The lack of research on secondary students labeled as gifted is the reason this type of study is needed. This demographic is an underserved population that should be researched for the betterment of those stakeholders to allow for the students who are gifted and who live in poverty to be successful in learning.

Problem Statement

With the blended learning educational model, learning occurs with technology and face-to-face instruction to ensure engagement for the students (Moskal, 2017; Spring, Graham, & Ikahihifo, 2018). Some students with socioeconomic disadvantages have issues with blended learning due to lack of technological device availability, like a computer, tablet, or smart phone, and connectivity problems, which raises the question of pedagogy effectiveness for students in poverty (Rideout & Katz, 2016).

The problem studied was that students who are raised in poverty and are not adapted to technology use have less positive learning effects to educational technology usage as other students. This is due to the lack of experience students of poverty have with proper technology usage regarding education (Rideout & Katz, 2016). According to Rideout and Katz (2016), low to moderate income families have serious connectivity problems, whether that comes from data limits, lack of payments for Internet access, or

too many people sharing a device. Gifted students are often thrust into technology-based classes to ensure they are being served legally within their educational realm with proper support (Zielezinski & Darling-Hammond, 2016). Therefore, when gifted students of poverty are in technology-based classes, problems may occur such as lacking a device to use for the assignment or feeling frustration because the student does not have the ability to navigate an assignment because of being unfamiliar with a program or device.

Gifted students can benefit greatly from the use of technology to enhance their learning (Duchaine & Fain, 2018; Westwood, 2018). However, gifted students prefer to be instructed through traditional techniques, such as teacher led instruction, and do not prefer to vary because lack of motivation to try new learning approaches (Gilbert, 2015). This lack of motivation is evident in the Rideout and Katz (2016) study, with three out of 10 students in poverty are likely to go online if they are only using mobile services at home; while only half the low-income students will go online if they have home access (Rideout & Katz, 2016). Of those low-income students who go online, 81% of those students play games (Rideout & Katz, 2016). Despite the students lacking motivation to use educational technology at home, 48% of low-income parents strongly agree that using educational technology will help their students score higher on standardized tests (Rideout & Katz, 2016).

In today's world where students are inundated with social media and technology, the proper use of technology in a classroom, like a blended or flipped classroom, allows the students to work at their own pace, and counteract the norms of traditional education such as the structured teacher-centered learning environment (Bowyers & Chambers,

2017; Ho, Nakamori, Ho & Lim, 2016). The use of technology allows the gifted learners to reach mastery in their learning by taking control of their own education through independence and using the given resources, like videos or articles, within the blended learning process (Ozcan & Bicen, 2016). Sixty-seven percent of gifted teachers had increased test scores from using blended learning and students had significantly improved attitudes toward learning; blended learning allows for gifted students to boost academic achievement without being restricted by curriculum of schools (Ibrahim, Saleh, Yusoff, Kamarudin, & Zakaria, 2017).

There is a gap in the literature when dealing with technology, gifted students, and poverty. Bouck and Hunley (2014) confirmed there is little research regarding the use and effect of technology on gifted students. Plucker and Callahan (2014) stated, "despite several decades of concerted effort to address underrepresentation and narrow achievement gaps among subgroups of bright students, considerable evidence exists that underrepresentation remains a problem – and that 'excellent gaps' in many cases have grown over the past generation" (p.397). Worrell (2014) claimed the amount of research on this subject is disappointing. Pulham and Graham (2018) also confirmed more information is still needed on this topic. While there have been studies on students in poverty and their use of technology, there is a gap in the use of blended learning with gifted and low socioeconomic students. This qualitative case study not only allowed the researcher to get the students' perspectives of the pedagogy and use of technology, but it also shed light on the teachers' perspectives on the use of the blended learning pedagogy with gifted students in poverty.

Purpose of the Study

Because gifted students in poverty could not be proficient in meeting technology standards as a result of weaker technological backgrounds, the purpose of this qualitative case study was to explore students' perceptions of blended learning among gifted students in poverty (Gilbert, 2015; Milner et al., 2017). This study was conducted using an exploratory case study in which the researcher interviewed 10 participants to gain insights about the perceptions of gifted students in poverty on the subject of blended learning. According to Yin (2017), an exploratory case study's "purpose is to identify the research questions or procedures to be used in a subsequent research study" (p. 287). This also allowed for others who want to continue the study to have set procedures or questions to guide them.

Research Question

The research question and subquestions are based on the conceptual framework and the literature review for this study.

Research Question: What are the perceptions of gifted students on free and reduced lunch regarding being taught using a blended learning pedagogy?

Subquestions:

1. What are the attitudes of gifted students on free and reduced lunch towards using technology for education?
2. What perceived usefulness do gifted students on free and reduced lunch see regarding the platforms for blended learning?

3. What is the perceived ease of use of gifted students on free and reduced lunch regarding the platforms that are involved in blended learning?
4. What are the behavioral intentions of gifted students on free and reduced lunch regarding their use blended learning?

Conceptual Framework

A qualitative study of student perceptions of blended learning lended itself to the conceptual framework of the technology acceptance model (TAM). Davis's (1989) model theorizes that a person's intention to use a piece or a system of technology is determined by either its perceived usefulness or its perceived ease of use (Davis, 1989; Tarhini, Hone, Liu, & Tarhini, 2017; Venkatesh & Davis, 2000). The TAM aligned with this study through the characteristics of the model and how it fits with the gifted students of poverty. Being able to analyze the four variables of TAM (perceived usefulness, the perceived ease of use of technology, attitude towards using technology, and the behavioral intention) to use technology in these students' learning helped to keep the study focused on blended learning (Davis, 1989). Students of poverty have a different set of prior experiences than that of students not in poverty; thus, their perceived mindset of usefulness and ease of use due to lack of exposure to technology could be different than others (Payne, 2018). That prior experience, or lack thereof, with technology will play a role in their learning, especially when dealing with technology and blended learning.

Nature of the Study

This qualitative exploratory case study explored gifted students in poverty perceptions of blended learning as it related to students in poverty not being accustomed

to using educational technology for instruction in the same way as students who are not in poverty. In this case study, the researcher examined the perceptions of blended learning for 10 gifted students of poverty. Yin (2017) stated that researchers of a case study can observe any natural phenomenon which shows itself in a set of data. Case studies allow researchers to investigate a case in depth in its own contemporary, real-world context (Merriam, 2009; Yin, 2017). Researchers tend "to gain in-depth understanding of situations and meaning for those involved" through analysis, assessment, and appraisal of situations or events (Hancock & Algozzine, 2016, p. 9).

There are three specific types of case studies: explanatory, exploratory, and descriptive (Yin, 2017). Exploratory case studies are descriptive and focused on generating hypotheses for further investigations (Yin, 2017). For this study, I chose the exploratory case study approach to explore and analyze perceptions in order to understand the student's perspectives of blended learning. Stake (2013) posited that multiple case studies should have enough cases to show reciprocity, however not so many cases to where readers of studies cannot distinguish uniqueness of the case. This study was conducted through an interview process with the 10 students. The researcher transcribed, coded, and analyzed the interviews, which allowed the researcher to see commonalities and therefore be able to address the research questions and subquestions.

Definitions

Attitude toward using technology: A variable in the technology acceptance model that explains people could use a particular technology even if they do not have a positive

attitude towards the technology because it will provide an enhancement toward the subject's productivity (Davis, 1987; Davis, 1989)

Behavioral intention to use technology: A variable in the technology acceptance model that shows the subject's intention to use the technology. It is determined by one's attitude towards using the tested technology (Davis, 1987; Davis, 1989).

Blended learning: Blended learning is defined as the mixture of technology-based learning with face-to-face learning where students learn concepts, while technology is being used to assist in the learning (Fairchild, 2015; Halverson et al., 2017).

Giftedness: Giftedness is a label for a high-level of intelligence and indicates an advanced function of the brain. It could show in high-levels of cognitive abilities, academic aptitude, creative behavior, motivation, or a mixture of the above (Clark, 2013; David, 2016).

Perceived ease of use technology: A variable in the technology acceptance model that shows the subject's perception of the extent to which using a system would be effort free (Davis, 1987; Davis, 1989).

Perceived usefulness of technology: A variable in the technology acceptance model that shows the subject's perception of the degree that a tested system can improve the subject's performance (Davis, 1987; Davis, 1989).

Students of poverty: Students whose family live below the poverty line as set by the US Department of Health and Human Services (Milner et al., 2017; Table 1). In terms of this study, I used students who are enrolled in the free and reduced lunch program as students in poverty.

Table 1

HHS Poverty Guidelines 2017

# of People in Household	Annual Guideline	Monthly Guideline	Bi-Monthly Guideline	Weekly Guideline
1	$12,060	$1005.00	$502.50	$231.92
2	$16,240	$1,353.33	$676.66	$312.30
3	$20,420	$1,701.66	$850.83	$392.62
4	$24,600	$2.050.00	$1,025.00	$473.50
5	$28,780	$2,398.33	$1,199.16	$553.46
6	$32,960	$2,746.66	$1,373.33	$633.84
7	$37,140	$3,095.00	$1,547.50	$714.23
8**	$41,320	$3,443.33	$1,721.66	$794.61

Note. **For Families with more than 8 people, add $4,180 for each additional person (to annual guideline). From 2017 Poverty Guidelines from the US Department of Health and Human Services.

Assumptions

This study was based on three assumptions. The first assumption was that those involved in the interview are giving honest and accurate answers, thus keeping the data accurate. For an exploratory case study like this one, where there is a gap in the research of the topic, it is important that students are open and candid in their comments when dealing with blended learning (Yin, 2017).

Though Payne (2018) discussed in detail the economic habits of people in poverty, students in poverty do not have the same technology devices and connectability of those in other financial demographics. The second assumption was derived from Rideout and Katz (2016) who stated that people of poverty have difficulties dealing with connectability and technology used for education because of inconsistent Internet connections or limited data on cellular plans. Finally, the last assumption was that a

student would not have a preexisting problem with a teacher, which could skew the data. Since the study dealt with blended learning and gifted students in poverty, an honest interview was assumed, as well as inferring that there are connectability issues for the study of student's perceptions of blended learning for this demographic.

Scope and Delimitations

For this study, the boundaries that limited the study were enrollment in the free and reduced lunch program, gifted education, and in an AP (Advanced Placement) course that had blended learning as a part of the course. The scope of the study included students who are in Grades 9-12 in northwest Georgia in a rural Title I system. I was able to find students who fit the target demographic in this geographic area. Only secondary high school students were chosen for this study to use blended learning in AP courses with the intention to encourage in-depth qualitative discussions with students about their perceptions.

The boundaries and scope of this exploratory case study gives other researchers the ability to transfer the procedures and research methods and extend to their own study. Elaborating on the findings and giving the stakeholders a complete set of data will give the study the transferability that could be applicable to other studies.

Limitations

A limitation of this study was that the study focuses on gifted students in poverty who are taking AP courses. Between students who are labeled gifted, qualify for the free and reduced lunch program, and who are taking Advanced Placement courses who are using blended learning, the target demographic was small and was a limitation. To assure

the blended courses were parallel with rigor and structure, I chose to use AP courses for this study. To assure there are no biases for the students and the study, I chose students who have all four core content (math, English, science, and social studies) classes in their schedules. I chose two students in each high school grade. Also, if a student might have either a problem learning through the blended learning format, such as a focus issue with reading on a computer screen, or have an issue with the instructor, such as behavior issues within the instructor's class, it would hopefully be an anomaly, as the data could be skewed. The specific nature of the limitation could cause problems in transferability in that there are small sample sizes of this demographic.

Significance

The researcher showed the study's significance by exploring the blended learning experiences of gifted students in poverty. There was a gap in the literature with students in poverty and blended learning. The results of this study may help to benefit not only gifted students in poverty and how they excel in their learning, but also the teachers for the socioeconomically disadvantaged gifted students and how they can modify their teaching strategies to help this demographic succeed. Also, insights from this study could allow for positive social change in assisting policy makers in making educational and technological decisions on the use of instructional strategies using blended learning that would benefit gifted students in poverty. Further, the research may encourage positive social change by providing a resource for instructors and technology coordinators who work in low socioeconomic areas due to the lack of literature and

research on the demographic of gifted students in poverty and their learning with blended learning.

Summary

Blended learning is a model in education that allows students to learn face-to-face with instructors, as well as adding a technological component with the lessons, either through practice or student-centered learning. However, students preferred and most effective learning styles beg the question of blended learning effectiveness and students' perceptions of the pedagogy. The demographic of gifted students who live in poverty is underresearched, especially in studies that involve technology.

Chapter 2 includes a description of the literature search strategy for the literature review to support the study. The conceptual framework and literature review of previous studies will be discussed in depth.

Chapter 2: Literature Review

The purpose of this qualitative study was to explore students' perceptions of blended learning for gifted students in poverty. With the demographic of gifted students in poverty, the problem was that students who are raised in poverty and are not adapted to technology use do not have the same educational learning effects to educational technology usage as other students. Only 30% of students in poverty are likely to go online at home because of the lack of reliable Internet (Rideout & Katz, 2016). Gilbert (2015) also claimed that gifted students prefer face-to-face learning. Also, gifted students are often thrust into technology-based classes to assure the students are legally served within the educational rights of their Individualized Education Program (Zielezinski & Darling-Hammond, 2016). However, studies show that test scores and attitudes increased when using blended learning in gifted classes (Brinkley, 2018). This chapter presents a comprehensive review of the current literature addressing the conceptual framework of the technology acceptance model, blended learning, gifted students, and students of poverty.

Literature Search Strategy

The literature review for this study included several approaches. The search for literature began in the Google Scholar platform with a search for *blended learning*. From that point, I began a search for *gifted students* and *students of poverty*. It was then that the researcher crossed-checked the terms with one another, while also checking synonyms and similar terms. The search broadened to include *hybrid learning, online learning, flipped classroom, gifted, underserved students, low socioeconomic students,*

at-risk, high-risk, poverty, Title 1, free and reduced lunch, and poor. The search term grew as the process broadened, especially after reading literature and finding other synonyms or aspects of the research that would help answer the research questions or assist in meeting the purpose of the study.

When I felt that I had reviewed as many articles as I could from the Google Scholar platform, I began the same process on the Walden University Library's education, information systems and technology, and multidisciplinary databases, such as Education Source, ERIC, LearnTechLib, SAGE Journals, Taylor and Francis Online, and ProQuest Central. A problem that I encountered was there is a lack of studies on this topic. I had to separate the research into three topics of *blended learning, gifted students, and students of poverty*. By doing this, I was allowed to research a topic, and was able to find articles that could cross into the other two topics. For instance, there was research about blended learning and gifted students together in a study, but none about blended learning for gifted students in poverty. Therefore, the research on blended learning and gifted students allowed the researcher to get information in some areas where sections intertwined. After not having enough literature on certain searches, I contacted and received assistance from the Walden University library and multiple other university libraries.

Conceptual Framework

The TAM is one of the most cited, validated, influential, and widely used theories for analyzing acceptance for technology (Davis, Bagozzi, & Warshaw, 1989; Granić & Marangunić, 2019; Mortenson & Vigden, 2016). Davis adapted the theory of reasoned

action (TRA) and invented the TAM to explain behavior for computer usage and to predict whether the technology will be adopted (Davis et al., 1989; Granić & Marangunić, 2019; Mortenson & Vigden, 2016). With this study focusing on the perceptions of blended learning on gifted students who live in poverty, the research was aligned with the four variables of the TAM: attitude toward usage, behavioral intention toward use, perceived usefulness, and perceived ease of use. This will allow the researcher to see the acceptance and perceptions of blended learning by the gifted students in poverty.

Technology Acceptance Model (TAM)

Davis (1987) adapted the TRA and theory of planned behavior into the TAM as it is meant for analysis of user acceptance of a system. In the early development of the model, TAM was mainly applied to task-related systems, both on and offline (Hsaio & Yang, 2011). The TAM claims that the main characteristics of computer acceptance behaviors are perceived usefulness and perceived ease of use (see Figure 1). Perceived usefulness (PU) is measured by the question of whether the use of a system will help a subject's job performance (Davis, 1987; Granić & Marangunić, 2019; Mortenson & Vigden, 2016). Perceived ease of use (PEU) is measured by the subject's expectations of the use of the system to be free of effort (Davis, 1987; Granić & Marangunić, 2019; Mortenson & Vigden, 2016). According to the TAM, subjects intend to perform behaviors, such as using a form of technology, that they feel positive about (Davis et al., 1989). Throughout this study, the target demographic may or may not have had positive

experiences with educational technology. The TAM allows the researcher to analyze the PU and PEU of blended learning within the study.

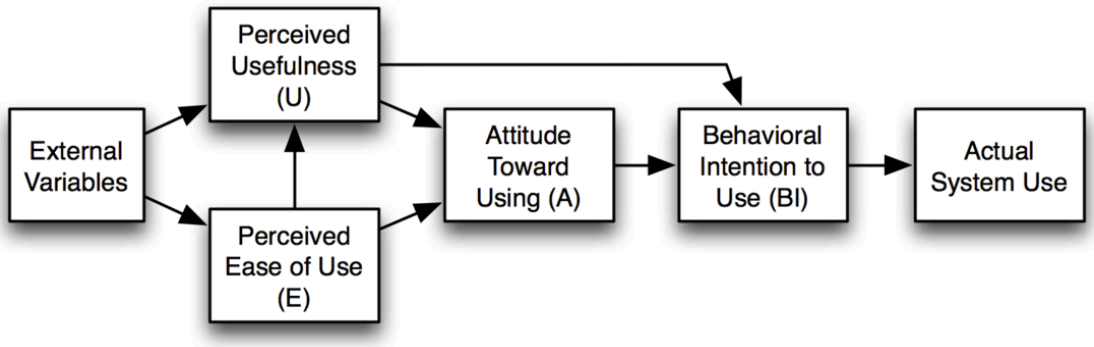

Figure 1. The Technology Acceptance Model. From Davis, F. D.; Bagozzi, R. P.; Warshaw, P. R. (1989), "User acceptance of computer technology: A comparison of two theoretical models," *Management Science*, *35*, 982–1003.

Researchers can use the TAM to predict the use of technology around the time that it is introduced to the public. According to the TAM, there are four variables (*PEU*, *PU*, attitude toward the use of that technology-*A*, and the behavioral intentions toward that use-*BI*) and a researcher can analyze those variables toward the actual use of the technology (Davis et al., 1989). The variables are normally measured through questionnaires; however, this is adaptable depending on the type of data collection (Turner et al., 2010). This does allow for the qualitative nature of this study's interview data collecting. The TAM does not include the subjective norm that one would find in the TRA (Hsaio & Yang, 2011; Marangunić & Granić, 2015; Turner et al., 2010). Researchers have shown that this model is accepted as an accurate predictor in showing

usage and adoption of technology (Hsaio & Yang, 2011; Mortenson & Vigden, 2016; Scherer, Siddiq, & Tondeur, 2019; Turner et al., 2010).

Validity is achieved through the TAM by using behavioral intention instead of actual usage; yet, the BI to use the technology is more often measured than the actual use of a technology (Granić & Marangunić, 2019; Scherer et al., 2019; Turner et al., 2010;). This is shown through the Keung, Jeffery, and Kitchenham (2004) study, which an administrator of a workplace predicted a technology by using the TAM. A year after the original TAM was devised, the researchers found that the technology was not being used at all (Keung et al., 2004). When TAM was applied again, the results were different (Keung et al., 2004). It was through this study, and Schepers and Wetzels (2007) study on whether the model was an accurate predictor of actual use, that there became a question of whether actual usage of technology could be predicted by a researcher using the TAM (Keung et al., 2004; Schepers & Wetzels, 2007; Turner et al., 2010). The actual use of technology can be measured both objectively and subjectively (Granić & Marangunić, 2019; Scherer et al., 2019). Objectively, actual use of technology is best measured through usage logs; while, subjectively, it is best measured through qualitative means such as questionnaires (Granić & Marangunić, 2019; Scherer et al., 2019; Turner et al., 2010). Turner et al. (2010) state that there was not a statistical difference between actual use and behavioral usage. Turner et al. (2010) also suggest that PU and PEU are not as good as BI for predicting actual use. Therefore, the BI is thought to be the accurate prediction for the TAM model (Keung et al., 2004; Turner at al., 2010). To find out the perceptions of blended learning in this study, one should analyze the BI because

one would assume that the BI is directly correlated (positively or negatively) to the perception of a demographic.

The TAM can be used with blended learning studies because of the technological focus of the pedagogy, how it affects retention, and stakeholder satisfaction (Bowyer & Chambers, 2017). However, Bowyer and Chambers (2017) state that the researcher needs to use caution when evaluating blended learning on a technology basis because of the multi-faceted characteristics that influence its' effectiveness. The literature shows that my qualitative study on perceptions of blended learning on gifted students in poverty can benefit from using the TAM model.

Literature Review Related to Key Variables and Concepts

Blended Learning

The term blended learning has been described by researchers to include "the integration of student-directed online learning with a teacher-led offline component, leverages digital technologies to provide students with more control over time, place, path, and/or pace of their own learning" (Schechter, Kazakoff, Bundschuh, Prescott & Macaruso, 2017, pg. 554). In other terms, blended learning can be seen as the mixture of technology-based learning with face-to-face learning where students learn concepts, while technology is being used to assist in the learning (Fairchild, 2015; Hrastinski, 2019; Smith & Hill, 2019). Blended learning is seen as customizing educational lessons and activities to achieve quality individual educational needs (Mandinach & Miskell, 2018, Pulham & Graham, 2018). It is through such a pedagogy that stakeholders can get the individualization through real-time data, connectivity for all students, and student analysis through data to assure the teacher of student mastery of their learning

(Mandinach & Miskell, 2018). When blended learning is implemented correctly, it "can be used as a way to support rather than weaken face-to-face instruction by providing teachers with access to data immediately; this allows teachers to quickly gauge student progress and make informed pedagogical decisions to differentiate and personalize instruction" (Schechter et al., 2017, p. 554).

Students who learn in online learning conditions do not score significantly different than students who learn through a face-to-face format (Duchardt, McBride, Furr, & Horton, 2019). Bingham (2017) states, "Some research has suggested that a blend of online and school-based instruction is more successful in improving student outcomes than an online-only method because it may offer more opportunities for socialization and collaboration, and may provide multiple instructional methods" (pg 1). When the blended environment is compared to traditional classes, student satisfaction is higher in a blended format (Ho, Nakamori, Ho, & Lim, 2016). It is through this thought process that Bergmann and Sams (2012) developed the flipped classroom concept, a variation of blended learning. In terms of this study, this non-traditional hybrid model is referred to as blended learning, and it can be seen as the mixture of technology-based learning with face-to-face learning where students learn concepts, while technology is being used to assist in the learning (Fairchild, 2015; Pulham & Graham, 2018). Research shows that a combination of face-to-face and online learning allow students to perform more positively than those who use a single mode of instruction (Schechter et al., 2017). It also shows that students prefer teacher involvement in their learning, in that it is a

stronger indicator of success in a blended model rather than in online programs (Schechter et al., 2017).

Models of Blended Learning

Research shows that there is no correct way to implement blended learning in education; however, there are multiple models that are shown to assist (Bingham, 2017; Herbert, 2017; Schechter et al., 2017). Blended learning is a delivery mode that allows for the mixture of technology-based content with face-to-face instruction (Pulham & Graham, 2018). Because of the student-centered nature of blended learning, there is no consensus within research about blended learnings effectiveness or which model is the most effective (Wang, Han, & Yang, 2015). The four leading models of blended learning are the rotational model, the flex model, the a la carte or self-blend model, and the enriched virtual model (Bingham, 2017; Herbert, 2017; Pulham & Graham, 2018; Schechter et al., 2017). The following models will be explained in detail in chapters four or five during the discussion of the study and findings.

The Rotational Model

The rotational model of blended learning is shown as small groups that moves between stations within their lessons (Bingham, 2017; Herbert, 2017; Schechter et al., 2017). Within those stations, one would find multiple types of learning, and at least one of those learning stations would be technology based (Pulham & Graham, 2018). As shown in Figure 2, under a rotation model, depending on the type of class involved, students would rotate between stations during the lessons. This could also be differentiated through an individualized rotation schedule of different courses for those

who may choose to be involved in online courses at the secondary level (Pulham & Graham, 2018).

A common aspect of the rotational model is that it can be seamlessly used with other types of lessons, such as paper/pencil assignments, discussions, or group projects (Horn & Staker, 2017). Often teachers have a schedule for the stations to assure a flow within the class; however, because of differentiated studies and student-centered lessons, these schedules are not often fixed because some students may not be finished with their lessons when another group is ready to move on (Horn & Staker, 2017). The rotational model is often called the flipped classroom model for the student-centered ability of the lesson that flips the classroom to allow the student to teach themselves (Bingham, 2017; Herbert, 2017; Pulham & Graham, 2018; Schechter et al., 2017).

A flipped classroom is an asynchronous learning method that uses practice lessons, such as online video or audio lectures, learning videos, and other different types of acquisitions to help achieve mastery in the content (Bates, Almekdash, & Gilchrest-Dunnam, 2017; DeLozier & Rhodes, 2017). During this pedagogy, the teacher facilitates and differentiates with students for mastery to be achieved (Bates et al., 2017; DeLozier & Rhodes, 2017). The purpose of this type of instruction is to maximize instructional time for teachers and students; it is a practice where the traditional roles of homework and class instruction have changed and blended into a non-traditional hybrid model (Bates et al., 2017; DeLozier & Rhodes, 2017).

Stockwell, Stockwell, Cennamo, and Jiang (2015) found that the flipped classroom format was successful in Science classes where the teacher has a chance to

step away from the traditional teaching role and allow the students to learn concepts at a deeper level. Stockwell et al. (2017) found that students who had videos and problem solving assigned before face-to-face instruction were more effective than those students who were taught in a traditional face-to-face classroom. While the flipped classroom format allows the instructor to merely facilitate the curriculum while students learn content on their own through a multitude of formats, blended learning allows for a portion of the lesson to be teacher-centered to ensure the students are achieving mastery of the content.

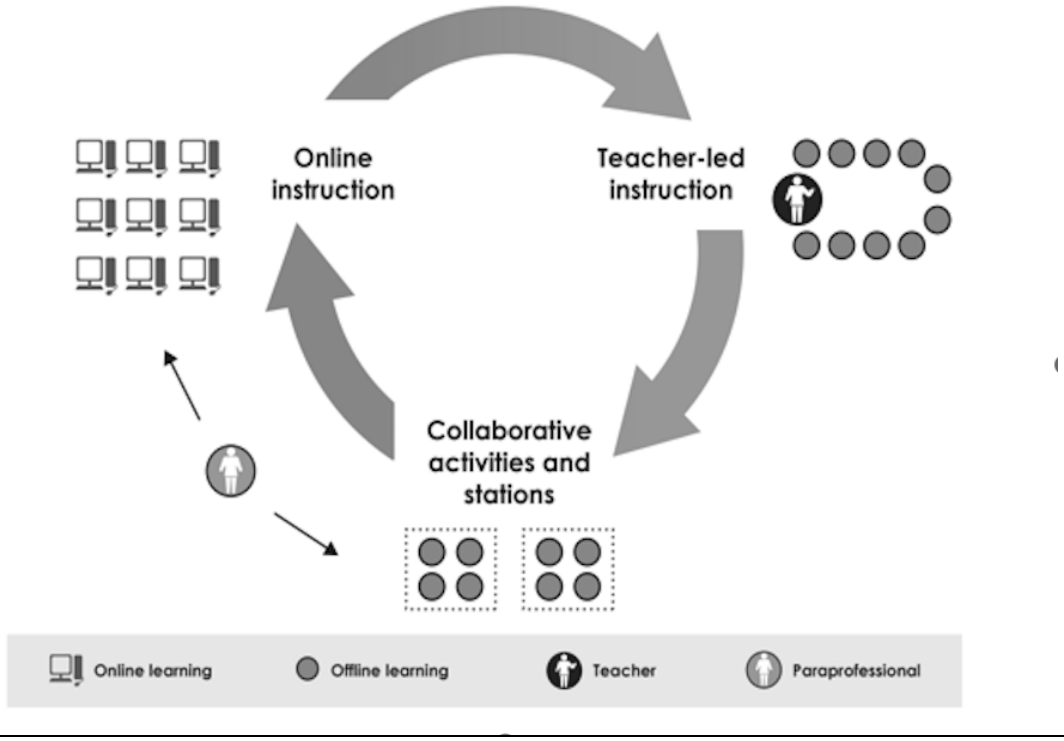

Figure 2. The Rotational Model. From Staker, H. & Horn, M. B. (2012), "Classifying K-12 Blended Learning," Innosight Institute [Image].

The Flex Model

The flex model of blended learning is an independent, mostly online learning that allows the student to move at their own pace (Bingham, 2017; Herbert, 2017; Schechter et al., 2017). Through this model, students are primarily working on a device; however, they have the flexibility to have a teacher or a face-to-face mentor there to help the students when needed through small-group instructions, tutoring, and group projects (Blended Learning Models, 2017; Pulham & Graham, 2018; Figure 3). The model allows for collaboration with peers within the lesson. The students are allowed to have a customized schedule since the amount of support by the accountable teacher depends on the student and their level of understanding of the topic or course (Bingham, 2017; Herbert, 2017; Schechter et al., 2017).

The flex model works best when the learning area has open spaces for the groupings to have multiple uses and places to learn (Staker, 2015). Staker (2015) also states that the flex model tends to work best in elective or foreign language courses within a school until all of the students learn expectations with the new format. At that time, the model can expand to the core contents of the curriculum. Jacobs (2016) gives a full description of flex model high schools. In the schools, students can come any time between 7 am and 5 pm, as long as they spend six and a half hours at the school, and all of their classes are taught through the flex model. This allows the student flexibility in going with the flow of their attention span. The students can work on what they feel like working on as long as they pass eight courses in a school year. Jacobs (2016) explains that the teachers are more like full mentors and accountability checkers, as well as small group leaders.

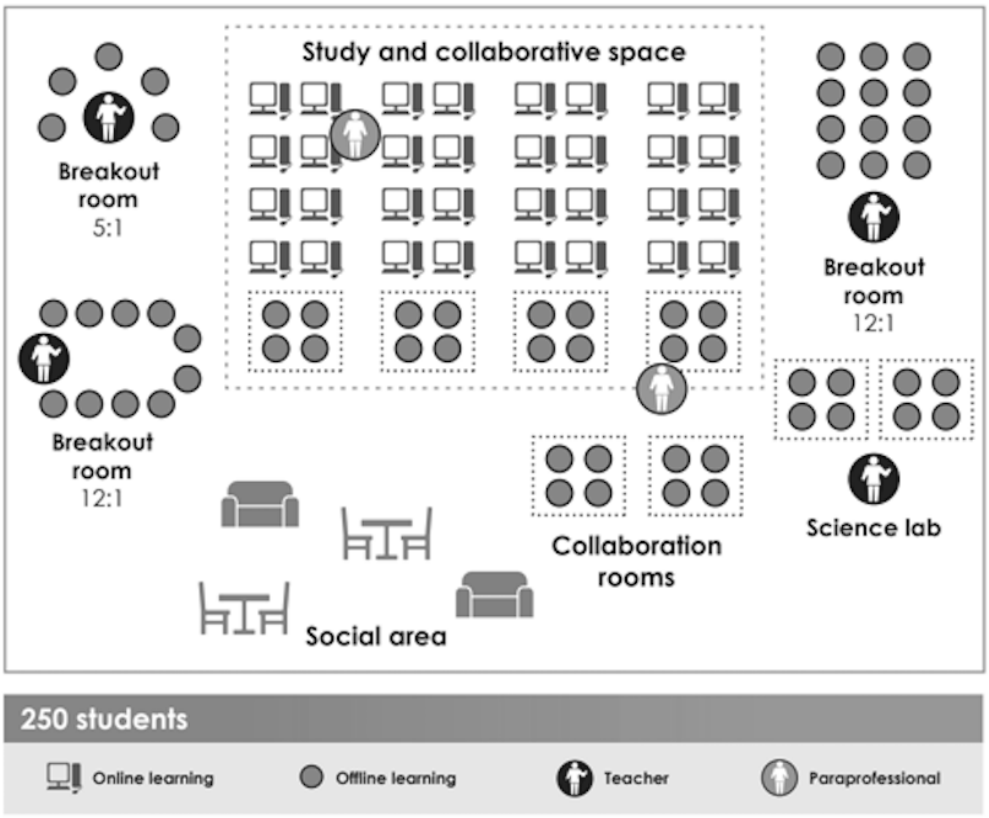

Figure 3. The Flex Model. From Staker, H. & Horn, M. B. (2012), "Classifying K-12 Blended Learning," Innosight Institute [Image].

The A La Carte Model

The a la carte model is a part online instruction, part face-to-face instruction with a teacher. For example, a student might meet at their school twice a week, with the other three times they would be completing online assignments that are assigned by the instructors (Bingham, 2017; Herbert, 2017; Schechter et al., 2017). With this model, it allows for students to take one or more entirely online courses, while also taking traditional face-to-face classes at a school (DeNisco, 2014; Figure 4). This model has grown popular since several states around the country make it mandatory to take at least

one online course before graduation (DeNisco, 2014; Persichitte, Young, & Dousay, 2016). Many districts are serving gifted and advanced students by allowing the student to take Advanced Placement classes online through this blended format (DeNisco, 2014).

Teachers who use this approach are allowed to expand their roles and allow for a standards-based learning setting that the student can find meaningful and engaging through the use of technology (Moss & Fink, 2014). However, idealistically, if a school does not offer a class that a student might want to take, the student would take the class via an online course while attending the school (Staker, 2015). Schools would need to ensure that the students would have the necessary technology at school and home (Staker, 2015). Also, schools would need to make sure the students were able to be successful in such an independent environment, either through a readiness assessment or a protocol on choosing students for such an environment (Staker, 2015).

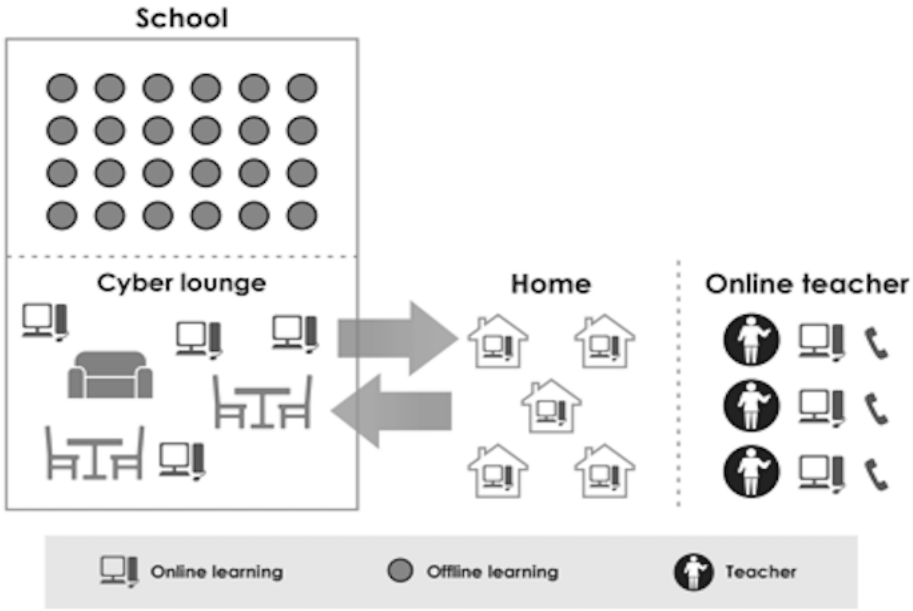

Figure 4. The A La Mode Model. From Staker, H. & Horn, M. B. (2012), "Classifying K-12 Blended Learning," Innosight Institute [Image].

The Enriched Virtual Model

The enriched virtual model is mostly considered an online learning session with the students checking in with their instructors in person to assure they are on task (Bingham, 2017; Herbert, 2017; Schechter et al., 2017; Figure 5). Generally, the instructor that the students are checking in with during the week would be the same person who is their online teacher (Blended Learning Models, 2017). This model shows learning is mainly online at any remote location, and possibly at a school setting depending on the capability of the learner and the location of the teacher (Blended Learning Models, 2017; Pulham & Graham, 2018). The difference between this and the a la carte model is that the a la carte model has students enrolled and using an online environment for full enrollment of classes, while this can be used in smaller formats like

lessons. In school environments that use the enriched-virtual model, students are often scheduled two or three days a week in school to meet with instructors for course assistance and to learn skills to help them succeed. The rest of the week would be the student's responsibility to do the assignments on their own. Schools that use the enriched-virtual model outperform the state averages on standardized tests and college readiness (DeNisco, 2014).

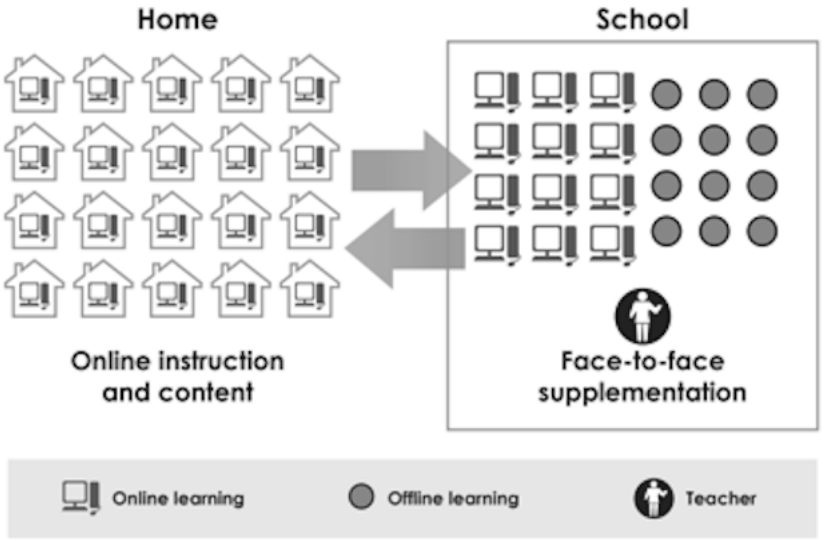

Figure 5. The Enriched Virtual Model. From Staker, H. & Horn, M. B. (2012), "Classifying K-12 Blended Learning," Innosight Institute [Image].

Blended Learning vs. Traditional Learning

According to Jensen, Kummer, and Godoy (2015), blended learning and traditional learning have no quantitative statistical differences between them. However, research shows that, qualitatively, students will accept the blended learning environment as long as the instructor has expertise in the area or complete knowledge in the topic

being taught (Boelens, De Wever, & Voet, 2017; Diep, Zhu, Struyven, & Blieck, 2017; Kumi-Yeboah, Dogbey, & Yuan, 2018; Page, Meehan-Andrews, Weerakkody, Hughes, & Rathner, 2017; Zhu, 2017). Another benchmark for students to show success in a blended learning environment is personal achievement goals and the value of the academic task at hand (Diep et al., 2017; Zhu, 2017). The perception of the students shows that the students want face-to-face instruction that blended learning gives, rather than the fully independent instruction of the flipped learning environment (Kumi-Yeboah et al., 2018; Page et al., 2017). However, a negative aspect of the student's perceptions is the assignments are not often of quality (Boelens et al., 2017). Also, students of minority or socioeconomic backgrounds often feel that the instruction or assignments lack any cultural backgrounds leaving the students unable to identify with a goal of the instruction (Boelens et al., 2017; Kumi-Yeboah et al., 2018).

Learning in an online environment can assist in higher levels of student engagement, motivation, and achieving better quality learning outcomes (Whiteside, Garrett Dikkers, & Lewis, 2016). Learning content through a variety of online purposes is an effective strategy when working with at-risk, students with disabilities, and the gifted (Miller & O'Brien, 2016; Whiteside et al., 2016). Zielezinski and Darling-Hammond (2016) also stated that low-income students benefit from one-to-one access to devices as well as high levels of interactivity that suggest higher order thinking and discovery through a true blended environment. However, gifted students are often placed into classes that are technology based so they can assure that they have been served as a part of their Individualized Education Plan (Zielezinski & Darling-Hammond, 2016).

This setting is problematic if the gifted students do not have the proper technology to assist them in the technology-based pedagogy (Zielezinski & Darling-Hammond, 2016). Swan et al. (2015) stated that gifted and talented middle school students in economically disadvantaged areas can have positive gains in virtual learning labs as long as it takes place in supervised brick-and-mortar schools.

Gifted and talented students do well with some aspects of technologically-based teaching (Bergmann & Sams, 2014). Goodwin and Miller (2013) stated within their study that students in advanced placement classes and students with special needs reported a highly significant increase in their test scores and attitudes in classrooms that are flipped or blended. Martin (2013) offered that gifted students enjoy the technological interactions with other students with likeminded interests during the flipped or blended classrooms. Being that some gifted and talented students are socially awkward, this type of learning can break down social barriers and allow them to collaborate comfortably (Milman, 2016). Garthwait (2014) posited that students' past performance is a good predictor of success in technology-based learning; also technology access, self-efficacy, and organization will contribute to one's success. Garthwait (2014) also stated that in lower socioeconomic schools' technology-based education is best coupled with a study hall to assure Internet access for the student. Outside of the moderate gains for low-level standardized assessments in classes that have been flipped or blended for gifted students, authentic assessments for computer-based classes allow the students to become immersed in the learning (Zielezinski & Darling-Hammond, 2018). Yet Ozcan and Bicen (2016)

stated that gifted students tend to use their smartphones for their educational online use; therefore, connectivity could not be a necessity in the current age.

Consistently, the researchers have shown that students prefer face-to-face learning when attempting to understand the content. However, the approval rating of blended learning is high (Bowers & Kumar, 2017; Diep et al., 2017; Utami, 2018). Blended learning is a preferred learning type by students because of the ability to learn at the students' own personal pace (Bowers & Kumar, 2017; Diep et al., 2017; Utami, 2018). Because of this, students typically score better for blended learning courses because of the student scoring higher on practice assignments.

Wivell and Day (2015) stated that it was essential for students enrolled in blended learning to have self-motivation, self-reliance, and a sense of academic independence. The age of the students and the rigidity of the assignments tend to affect the self-motivation of the students who are participating in a blended learning course (Bowyer & Chambers, 2017; Potts, 2019). Secondary students tend to be less motivated because of the engagement with online elements of blended learning because they are accustomed to a face-to-face, and teacher/students classroom formats (Bowyers & Chambers, 2017). Studies have shown that students report online discussions were the least useful element of blended learning, questioning its utility and the students maturity within the discussion boards (Moore, 2018; Potts, 2019; Pye, Holt, Salzman, Bellucci, & Lombardi, 2015; Taylor, Nelson, Delfino, & Ham, 2015). Pye et al. (2015) claimed that half the students had online discussion or group work that they felt was useful. Perez and Riveros (2014) found that blended learning assisted in the student's academic autonomy and

responsibility. However, Perez and Riveros (2014) and Chen and DeBoer (2015) both agreed that some students did not want to engage in or complete the online discussions and activities involved in blended learning. However, students who were most successful were the ones who participated in the assigned activities within the class (Chen & DeBoer, 2015; Potts, 2019).

Sparks (2015) stated that blended learning is not a method that helps K-12 students, mainly because data is still being collected. Bowyer and Chambers (2017) confirm there is very little research regarding the impact of blended learning or the use of the pedagogy in primary or secondary students. Sparks also indicated there is a severe gap in studies that trace K-12 education through a blended environment. Due to the lack of research with the primary and secondary students, it is difficult to conclude impact (Bowyer & Chambers, 2017; Sparks, 2015). Bingham (2017) found that the K-12 research of blended learning is "scant" (pg 2).

Student Perceptions of Blended Learning

For the perceptions of blended learning, students feel more comfortable with the face to face contact with the teachers (Gatling, 2015; Kumi-Yeboah et al., 2018; Page et al., 2017; Unal & Unal; 2015;). In the face-to-face portion of blended lessons, students demonstrate they have the confidence to learn the content that is being taught (Bowers & Kumar, 2017; Kumi-Yeboah et al., 2018; Page et al., 2017). They feel comfortable in the teacher and the ability to ask questions if they need clarification (Bingham, 2016; Bowers & Kumar, 2017; Diep et al., 2017; Gatling, 2015; Unal & Unal; 2017). However, in traditional classrooms, in comparison to blended classrooms, trends show that students

feel more comfortable in their learning confidence of the content in the class when it is taught in the traditional teacher-focused environment (Bowers & Kumar, 2017; Chen & DeBoer, 2015; Diep et al., 2017; Utami, 2018). However, in the Unal and Unal (2017) study, students showed that they had a positive perception of blended learning attributing some perceptions to the high student gains on pretest and posttest scores within the blended course.

Teacher Perceptions of Blended Learning

Teacher perceptions of blended learning are mixed. In adult learning and graduate school, instructors and professors use blended learning for multiple reasons like convenience, or scaffolding to student-centered learning (Pulham & Graham, 2018). Teachers feel that students learn more when the learning is taken to a student-centered engaging environment (Halverson et al., 2017). This is done easily through blended learning. In elementary schools, teachers feel that it is beneficial because of the use of technology and the ability for students to gain a greater understanding through practice and engaging learning (Halverson et al., 2017).

However, for middle schools and secondary school teachers, there is still not a great deal of research (Bingham, 2017; Mandinach & Mandinach, 2018; Sorbie, 2015; Unal & Unal, 2017). In the Mandinach and Miskell (2018) study on three secondary charter schools and blended learning, the teachers' opinions were very positive mainly because of the data that was obtained for each student. The Unal and Unal (2017) study showed that teachers had high satisfaction in blended learning instead of traditional learning because of the learning gains that occurred, and stated that blended learning

could be effective if the conditions are set properly. Secondary teachers felt that blended learning needed to be better planned out and needed a way for students to be using technology productively, instead of off task (Bingham, 2017). Bingham (2017) states, "First, teachers spent a great deal of time managing students (mis)use of technology and off-task behaviors. Second, teachers had for more roles and responsibilities than anticipated. Finally, the interplay of school organizational context and teachers' beliefs and experiences, along with the tensions between the school vision for practice and the day-to-day classroom activities, shaped teachers' roles and practices in the classroom" (pg 6).

Gifted Education and Gifted Students

Gifted education began with the 1869 study by Galton entitled *Hereditary Genius*, in which the study targeted high ability and high achievement (Plucker & Callahan, 2014). The first national effort to label giftedness began in 1921 with Lewis Terman's *Genetic Studies of Genius*, where cognitive ability and its relationships to outcomes was able to move to the forefront (Subotnik, Olszewski-Kubilius, & Worrell, 2011). Currently, the United States federal government funds gifted education through the Javits Gifted and Talented Students Education Act through the National Research Center on Gifted and Talented (Plucker & Callahan, 2014).

Beginnings of Gifted Education

The first known accommodations for gifted education came in 1870 when tracking students was allowed in St. Louis, Missouri (Rimm, Siegle, & Davis, 2017). Being able to track the mastery of those early students allowed some students to

accelerate through to 8th grade in less than eight years (Rimm et al., 2017). In 1901, the gifted school was opened in Worcester, Massachusetts (Rimm et al., 2017). But the first large-scale movement for gifted students came as an unintended consequence of the Cold War as the American policymakers were trying to keep up with the Soviet Union and the expanded Space Race (Bandy, 2014; Rimm et al., 2017). The federal government budgeted millions of dollars into improving the education of advanced students, especially in mathematics and science (Bandy, 2014). During the 1960's, public education turned towards civil rights and advanced education drifted towards the affluent (Bandy, 2014).

The United States Department of Education *National Excellence: A Case for Developing America's Talent* showed the educational world of the severe drop in attention that the American's had for the gifted students (Rimm et al., 2017). The report told of the gifted students being underserved, often not served educationally at all, and students in grades teaching content that they had already mastered (Bandy, 2014; Rimm et al., 2017). Early education programs for students labeled as gifted used IQ testing as the basis for acceptance (Card & Giuliano, 2014).

This changed by the 1970s after it was claimed that this form of acceptance was biased racially and felt the acceptance should be changed to both cognitive and non-cognitive ability (Card & Giuliano, 2014). The most updated statistics from The National Research Center on the Gifted and Talented estimated that in 2012 that the United States had three million gifted students (Yeung, 2014). There has not been a comprehensive estimate since 2012.

Models of Gifted Education

There are many models of gifted education for one to use for learning. However, within this study, the researcher discusses four models of gifted education that correlated best with the study of gifted students in poverty. Those four are the enrichment triad model, Gagne's differentiated model of giftedness and talent, Betts's autonomous learner model, and Sternberg's wisdom, intelligence, creativity, synthesized model of giftedness. The following models could be discussed in detail in chapters four or five during the discussion of the study and findings.

Enrichment Triad Model

Gifted students process complex information on a rate that is faster than that of an average-ability student (Dilekli, 2017). With students labeled gifted, they should have a high competency for thinking critically (Dilekli, 2017). There are several highly recognized models that explain giftedness. In 1976, Renzulli penned the enrichment triad model (ETM) that stated that giftedness is broken into three clusters: above-average ability, commitment, and creativity (Robinson, 2017; Figure F). "The ETM model involves integrating a series of enrichment activities into the regular curriculum, combined with the reflective triad model discussed earlier the possibility of developing reciprocal learning was explored further through the experimental teaching session" (Crow, 2016, p. 7).

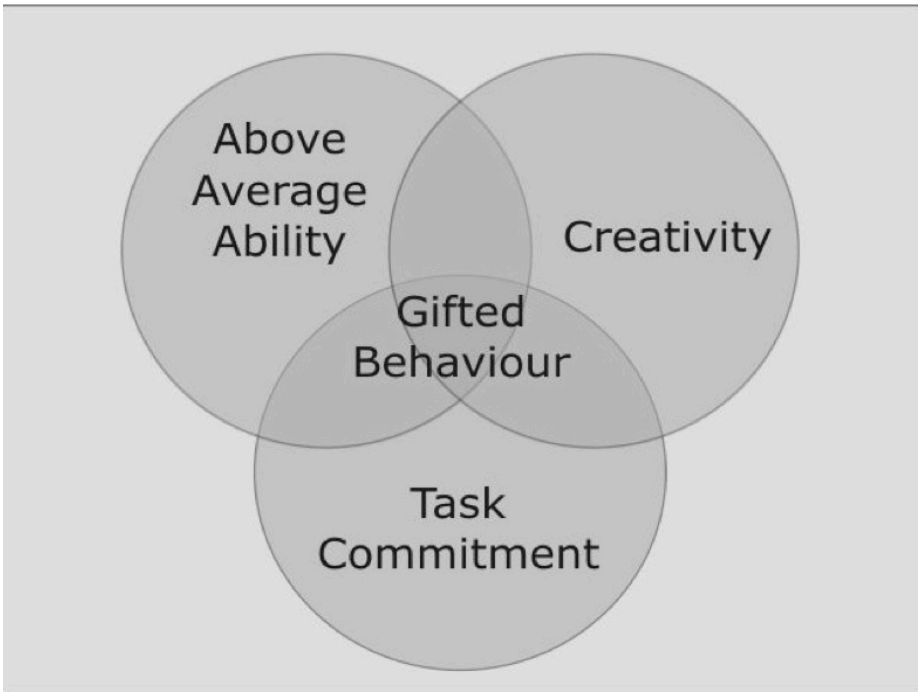

Figure 6. Enrichment Triad Model. From Renzulli, J., & Renzulli, S. R. (2010), "The schoolwide enrichment model: A focus on student strengths and interests," Gifted Education International [Image].

Gagne's Differentiated Model of Giftedness and Talent

According to Gagne's differentiated model of giftedness and talent, someone who is gifted should have the intellectual gifts within the top ten percent of others who are in their age group, and their ability to learn is honed through years of formal and informal practice (Merrotsy, 2017; Wai & Worrell, 2016; Figure 7). Merrotsy (2017) stated,

> If abilities are not too closely related, the percentage of those who are measured to be either gifted or talented (or both) in at least one domain and fields measured is increased. He concluded 'it is not unreasonable to expect that close to two thirds

(60-65%) of students could be labeled gifted or talented in regular classrooms. (pg 30).

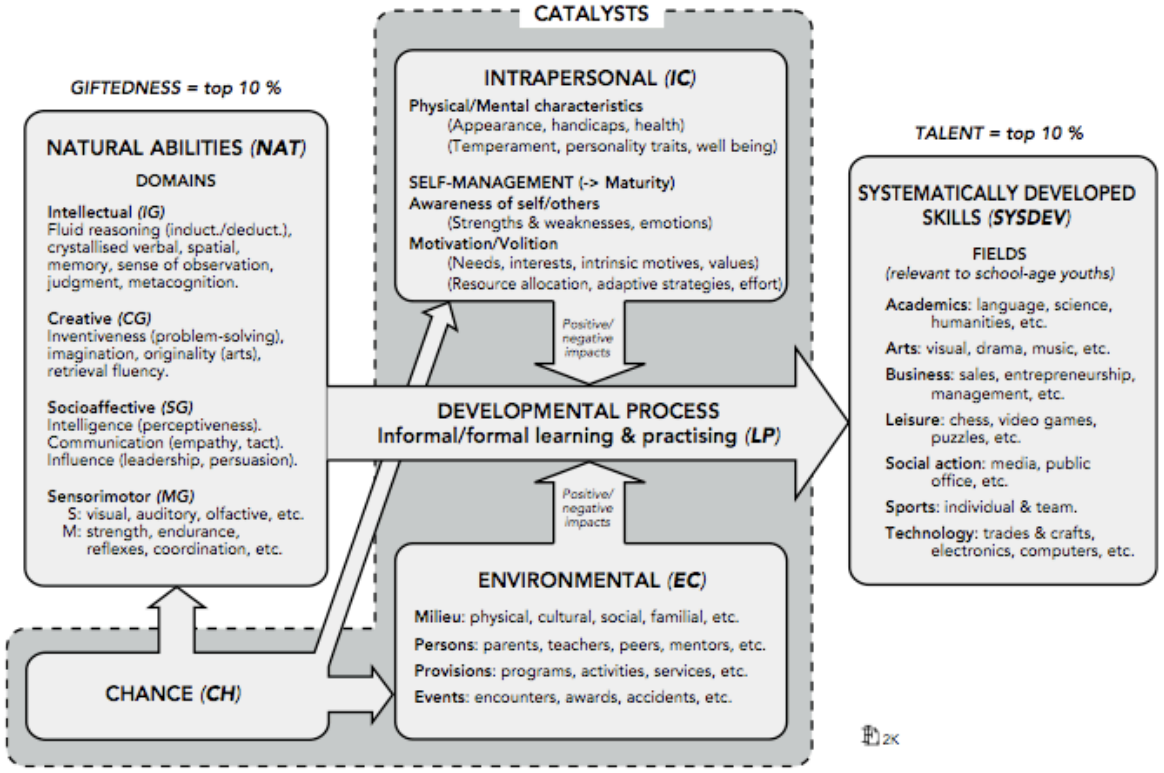

Figure 7. Gagne's Differentiated Model of Giftedness and Talent. From Gagne, F. (2000*), A Differentiated Model of Giftedness and Talent. Year 2000 Update*

Betts's Autonomous Learner Model

After years of noticing that many gifted students felt that they were on a high level academically, but were dropping out of educational services, Betts began to test individual learning for the gifted and talented (Henshon, 2015). It is from this test that the autonomous learner model was born. In Betts's autonomous learner model, the model has five components that include an orientation period, individual development,

enrichment, seminars, and in-depth study (Davis, 2019; Figure 8). The model should be thought of as a way for the learner to understand themselves and their preferred way of learning and practicing for mastery within the realm of gifted education (Davis, 2019).

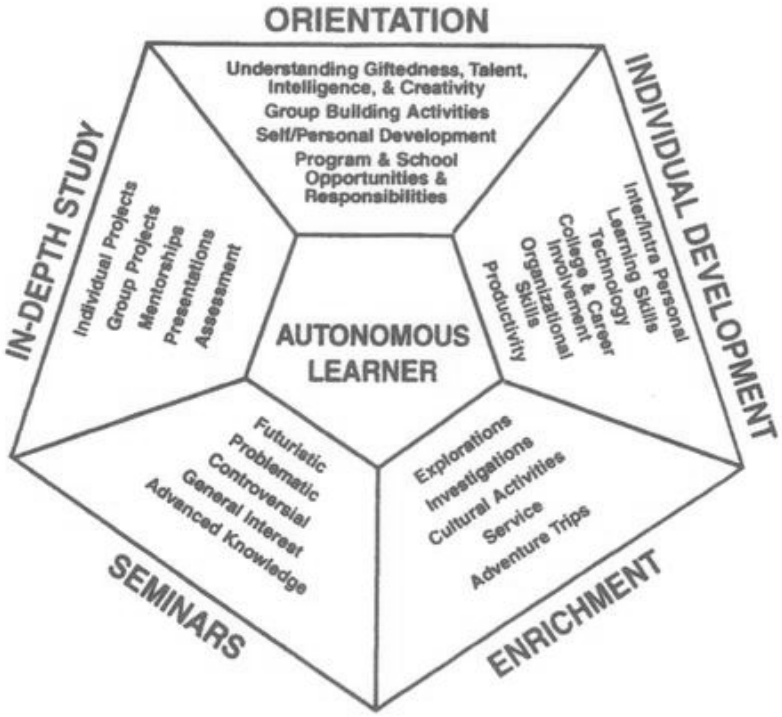

Figure 8. The Autonomous Learner Model. From Betts, G.T., & Neihart, M. (1986). Implementing Self-Directed Learning Models for the Gifted and Talented. *Gifted Child Quarterly, 30*(4), 174-177.

Sternberg's Wisdom, Intelligence, Creativity, Synthesized Model of Giftedness

The autonomous learner model is a precursor to Sternberg's wisdom, intelligence, creativity, synthesized (WICS) model of giftedness, which is a trait model that labels students with giftedness through wisdom, intelligence, and creative synthesis (Davis,

2019; Figure 9). The WICS model is also used as a college admission tool. Luria, O'Brien, and Kaufman (2016) posited,

> Though the WICS model was not designed for the purpose of identifying giftedness, the finding that it is a strong predictor of college and higher educational success suggests that it may be appropriate as a predictor of the traits needed to demonstrate Renzulli's three-ring conception of giftedness, particularly at higher educational levels. (pg. 46).

Figure 9. WICS Model of Giftedness. From Sternberg, R.J. (2017). WICS: A Model of Leadership in Organizations. *Academy of Management Learning & Education, 2*(4).

No matter which model that is used and accepted, gifted students show process skills which are seen differently than non-gifted students (Rimm, Siegle, & Davis, 2017). However, the levels of critical thinking vary depending on the gifted student; thus the reason that early differentiation in education focused on gifted and academically-talented students (Dilekli, 2017).

Identification of Gifted Students

Two-thirds of the states use multiple criteria for admission, while still one-third of the use IQ scores solely to identify giftedness (National Association for Gifted Children, 2015). Yet, Maine and Connecticut as of 2015 identify students through where students fall within a percentage with Maine needed the students to be in the top 3-5% of students, and Connecticut labeled as the top 5% (National Association for Gifted Children, 2015). To assure equality in the identification process of gifted students, the National Association for Gifted Children has called for the use of a nonverbal test as part of their standards for identification. Many states use either the Naglieri Nonverbal Ability Test (NMAT) or the Cognitive Abilities Test (CogAT) for their testing of nonverbal measures (Carman, Walther, & Bartsch, 2018).

In the state of Georgia, gifted students are identified through two pathways. The first pathway states that the students should have a qualifying score in mental ability and achievement. For the mental ability test, a student in Kindergarten through second grade must score at the 99th percentile on a national age-normed mental ability test. Students who are above the third grade must score at or above the 96th percentile on a national age-normed mental ability test. In the achievement test, the student must score at or above the 90th percentile in reading, math, or complete battery on a nationally normed achievement test (Georgia Department of Education, 2017; Figure 10).

The second pathway states that the students must qualify in three of the four categories of mental ability, achievement, creativity, and motivation. For mental ability, the student must score at or above the 96th percentile on a national age-normed mental

ability test. For achievement, students must score at or above the 90th percentile in reading, math, or complete battery on a national normed based test; or students could provide an assessment at or above 90% as scored by a panel of three or more. For creativity, students must score in the 90th percentile on a creativity assessment (either a nationally normed base creativity test or a creativity assessment as scored by a panel of evaluators). For motivation, students in 6th grade or higher must have a two year average of a 3.5 grade point average in core content subjects or all students (no age discrepancy) must score at, or above 90% on a motivation assessment (Georgia Department of Education, 2017; Figure 10).

According to Rothenbusch, Zettler, Voss, Losch, and Trautwein (2016), most students who are labeled gifted receive all of their instruction from a teacher that has a small amount of training in teaching gifted students, and it is done in a heterogeneous classroom. Gifted students can thrive in the use of technology in the classroom because it allows the gifted students to create a product which in turn is similar to that of the professional world (Alawamreh & Elias, 2015). Gifted students throughout the United States do not receive proper services that are aligned with their advanced needs (Azano, Callahan, Brodersen, & Caughey, 2017). These lack of services causes the students not to be able to reach their capacity of achievements over their educational careers (Azano et al., 2017).

Category	Option A	Option B
	Student must have a qualifying score in the mental ability AND achievement categories.	**Student must qualify in <u>three of the four</u> categories.**
Mental Ability	➢ Grades K-2 99%% percentile composite score on a nationally age normed mental ability test ➢ Grades 3-12 ≥96th percentile composite score on a nationally age normed mental ability test	➢ Grades K- 12 ≥ 96th percentile composite OR appropriate component score on a nationally age normed mental ability tests
Achievement	➢ Grades K-12 ≥ 90th percentile Total Reading, Total Math, or Complete Battery on a nationally normed achievement test	➢ Grades K-12 ≥ 90th percentile Total Reading, Total Math, or Complete Battery on a nationally normed achievement test ➢ Grades K – 12 Superior product/performance with a score ≥ 90 on a scale of 1-100, as evaluated by a panel of three or more qualified evaluators
Creativity	➢ Evaluation data required	➢ Grades K-12 ≥ 90th percentile on composite score on a nationally normed creativity test ➢ Grades K-12 Rating scales used to qualify student creativity must equate to the 90th percentile ➢ Grades K-12 Superior product/performance with a score ≥ 90 on a scale of 1-100, as evaluated by a panel of three or more qualified evaluators
Motivation	➢ Evaluation data required	➢ Grades 6-12 Two-year average of a 3.5 GPA on a 4.0 scale in regular core subject of mathematics, English/language arts, social studies, science, and full year world languages. (See pg. 30 for add'l information) ➢ Grades K-12 Rating scales used to qualify student motivation must equate to the 90th percentile ➢ Grades K – 12 Superior product/performance with a score ≥ 90 on a scale of 1-100, as evaluated by a panel of three or more qualified evaluators

Figure 10. Georgia's Gifted Eligibility Criteria. From Rome City Schools (2018). Gifted eligibility criteria. Retrieved from https://www.rcs.rome.ga.us/Page/80

Underachievement in Gifted Students

Research differs depending on the level of education, but up to half of the gifted students are underachieving (Gatling, 2015; Post, 2016; Siegle & McCoach, 2018). Gifted students claim that their boredom in schools come from unchallenging, irrelevant busy work, as well as courses that do not meet their instructional needs, thus leading to dropping out of school (Hall & Marshall, 2016). Underachievement and boredom, especially from disadvantaged youth, comes from lack of talent recognition and lack of

challenging curriculum (Hall & Marshall, 2016). Gifted students are often not differentiated and expected to follow same curriculum and pacing as other students, thus leaving to boredom (Erisen, Sahin, Birben, & Yalin, 2016; Post, 2016). Post (2016) posited underachieving gifted students through the following:

> Gifted underachievers vary in how they display their underachievement. They may exert just enough effort to coast through school, under the radar and ignored because of average or even below average grades. They become 'selective consumers' who choose to achieve only in classes they enjoy, or they may give up completely, perform poorly, fail or drop out. (p. 1)

According to Roy and Winkler (2014), gifted students often became dissatisfied with lessons and content that they find uninteresting; therefore, online platforms within their lessons allowed teachers to find demanding content for their gifted students within their roster. It was recognized in 1993 in an Archambault study that teachers made only slight differentiations to regular curriculum for those students that are labeled gifted. This left the gifted students unchallenged and bored in their academics (Callahan, Moon, Oh, Azano, & Hailey, 2015). Since 1993, the National Association for Gifted Children has published standards intending on curriculum planning and proper instruction for quality learning for the demographic (Callahan et al., 2015).

Hall and Marshall (2016) also adds that the lack of motivation and underachievement of the gifted student is due to lack of quality instruction. Wiesman (2013) stated in his study of underachieving gifted students in mathematics that if teachers scaffold properly with the right amount of rigor in assignments that is difficult

enough to promote improvement, the students are more likely to become engaged because the students are confident in their abilities and want to be challenged. “Teachers can maximize their ability to engage high-achieving freshmen when utilizing certain constructs. Advanced learners are motivated because of their personal aspirations” (Wiesman, 2013). Teachers lack in the analysis of higher order thinking and 21st-century skills, thus causing students to become disengaged (Shaw Jr. & Giles, 2015). Card and Guiliano (2014) suggested that elementary students’ labeled as gifted should be in an inclusive environment. Erisen et al. (2016) claimed that gifted students tend to deal with inadequate experiences educationally, emotional stresses, and negative peer influence in school.

Ayebo (2016) stated that teachers of gifted students notice that their pupils tend to be disorganized, unmotivated because of lack of engagement, and some have problems with communicating processes or explanations. In Wu's (2017) study, he noted that gifted underachievers were often unengaged from their learning. This lack of engagement was shown in several ways: "some students are consistently oppositional or obstructive in class, while others are withdrawn and take no interest in classroom proceedings" (Wu, 2017, p. 17). Wu also discussed that gifted underachievers were "responding to pressure to be accepted by their peers--they may not want to stand out, for fear of disapproval" (Wu, 2017, p. 17). Wu (2017) also stated that the gifted underachievers were calculating and did not want unwanted attention from teachers because they felt that it would bring extra work to do. "This work may not be work that

the student enjoys and, in many classes, simply take the form of extra worksheets. This causes the students to refrain from displaying their giftedness" (Wu, 2017, p. 17).

Perfectionism.

According to Closson and Boutillier (2017), perfectionism involves three main characteristics: “setting excessively high standards, striving for flawlessness, and critically evaluating one’s behavior (p. 157). Though perfectionism can be a positive thing for students, it can quickly turn to a negative when it goes into the socially-prescribed perfectionism, which is a form where people are afraid of not succeeding (Clousson & Boutilier, 2017; Flett, Blankstein, Hewitt, & Koledin, 1992). Though research suggests that perfectionism can be made into a positive for students, a study by Shim, Rubenstein, and Drapeau (2016) and a study Clousson and Boutilier (2017) shows that perfectionism, especially socially-prescribed perfectionism, could promote procrastination.

Perfection is now measured through the Frost Multidimensional Perfection Scale in which finds six factors of perfectionism: concern over mistakes, doubts about actions, personal standards, parental expectations, parental criticism, and organizational habits (Margot & Rinn, 2016). Margot and Rinn (2016) found that first born/only children male students are the students who are at the highest risk of unhealthy perfectionism, as well as gifted students who have very high demands put on them by their parents. In the Lyman and Luthar (2014) study on perfectionism at socioeconomic extremes, they found that gifted female students of poverty were prone to be anxious, withdrawn, somatic, and often internalizing because of their perfectionism. Gifted males of poverty were

generally seen a rule-breaking, aggressive, and externalizing because of their perfectionism (Lyman & Luthar, 2014).

Meeting of Gifted Student's Academic Needs

There are several recurring themes about teaching within a gifted program: "perceptions of teachers presentation and focus of content, coordination of projects and homework, and challenge, depth and curricular choices" (Kitsantas, Bland, & Chirinos, 2017). In the Kitsantas et al. (2017) study of middle school programs, it is stated that gifted teachers often teach in teacher-centered lessons when delivering content. This would cause the middle schoolers to lack a full understanding of the content, leaving some to wish for more detail (Kitsantas et al., 2017). Often in rural areas or districts that have funding problems, students are often placed in honors or Advanced Placement courses if there is funding to fulfill the course. However, many districts have trouble staffing qualified teachers into such roles; thus the secondary students tend to lack in rigorous challenges (Siegle et al., 2016). Though students have positive relationships with their gifted teachers, they felt that felt their expectations were too high (Kitsantas et al., 2017). Through this, they felt that teachers assigned excessive amounts of homework. They felt that rigor just meant more assignments, thus causing stress from too much work (Kitsantas et al., 2017).

Gifted students learning styles and acquisition are against the norms of others and often dispute traditional teaching styles (Willis, Steel, & Seriki, 2015). Because of this juxtaposition, teachers teach the gifted students in exceptional ways to meet the student's needs. According to the Kitsantas et al. (2017) study, gifted programs began to allow

students to begin engaging in self-regulated learning, such as aspects of blended learning that allow for planning, time management, and self-monitoring. Gifted students in secondary schools are often served through acceleration with Advanced Placement, dual-enrollment, or International Baccalaureate course (Brigandi, Siegle, Weiner, Gubbins, & Little, 2016; Callahan et al.,2015; Rimm et al., 2017; VanTassel-Baska, 2017). Callahan et al. (2015) state that over 90% of districts use Advanced Placement courses as their primary service for secondary gifted students. Teachers of the gifted understand that pedagogies like a blended classroom are a good thing because it brings in multiple attractive educational technologies to keep the students focused (Roy & Winkler, 2014). However, Roy & Winkler (2014) question if the students find the whole process of blended and flipped classrooms monotonous.

Students of Poverty

Defining Students in Poverty

According to the United States government, a family of four that earns under $22,400 would be considered in poverty (Gorski, 2015). Over 24 million children annually are affected by poverty in the United States (Cardichon & Darling-Hammond, 2017; Van Tassel-Baska, 2017). In 2013, the United States had the fifth highest poverty rate for children among developed countries enrolled in the Organization for Economic Co-operation and Development (OECD) with 13.4 million children below the poverty line (Ludlum, 2016). In 2014, data showed that 44% of children's families lived without the income to cover most needs and 22% live in poor families (Cardichon & Darling-Hammond, 2017; Jiang, Ekono, & Skinner, 2016). In Middle and High School, the

statistics show 41% live in low-income families, and 19% come from poor families (Jiang et al., 2016). Research shows that 38% of low-income students are white, 33% of Hispanics and 61% of black adolescents are considered low-income (Jiang et al., 2016). Research shows that underserved youth from low-income families do not receive the support and attention that they should have within the schools (Cardichon & Darling-Hammond, 2017).

Educationally, poverty is shown through the qualification for the National School Lunch Program (NSLP). "Children from families with incomes at or below 130 percent of the Federal poverty level are eligible for free meals. Those with incomes between 130 and 185 percent of the Federal poverty level are eligible for reduced-price meals. Schools may not charge children more than 40 cents for a reduced price lunch" (United States Department of Agriculture, 2017).

Poverty appears to have a stronger effect when experienced in the formative years than if someone experiences it in later periods of life (Coley, Sims, Thompson, & Votruba-Drzal, 2019). The effects of poverty on a person that sees it early in life are lasting, negative, and long-term (Coley et al., 2019). It shows that students of poverty have an increased rate of dropouts, committing crimes, and decreased rate of attending college, poorer health, and lower wage earnings throughout their lifetimes (Coley et al., 2019; Raudenbush & Eschmann, 2015). There are gaps in opportunity and achievement for low-income students in comparison to economically advantaged students (Azano, Callahan, Brodersen, and Caughey, 2017). Children of poverty have a lack of educational access than that of wealthier children (Raudenbush & Eschmann, 2015).

Parents of students in poverty are often trapped and cannot get out of their situation, thus continues to negatively affect their students learning at home and school, especially since historically schools in places of poverty are underperforming (Coley et al., 2019; Putnam, 2015; Rideout and Katz, 2016). Poverty is considered the number one predictor of standardized test scores (Kaya, Stough, and Juntune, 2016). According to Allington, McGill-Frazen, Camilli, Williams, Graff, & Zieg (2010), 46% of fourth graders who live in poverty could read above a basic level, while it also shows that poverty often predicts lower math scores as well. Also the Katz and Shah (2017) study shows that young students of poverty in their formative years do not score on cognitive training as high as their peers of higher socioeconomic status; however, when it comes to pre and post-tests, it shows that low socioeconomic status students do have a higher academic ceiling in that they show that they have a higher increase in their pre and post-test scores. Academic performance is extremely low for the students who attend schools with Title I labels, which is at least 40 percent of the students are on free-reduced lunch (National Center for Educational Statistics, 2017) and that is 20% of the student population of America. For students in poverty, families typically have connectivity issues when using technology that come from data limits on devices, financial problems in paying bills, or too many people sharing a device to allow for students to use the technology for education (Rideout & Katz, 2016). In the Mandinach and Miskell (2018) study, over 60% of teachers felt that students of poverty are at a major disadvantage in blended learning because of their inadequate skills of operating technological devices.

Gifted Students in Poverty

The underrepresentation of gifted students in poverty is an issue, but published research does not give an accurate estimate of the number of students in poverty that are labeled as gifted (Hamilton, McCoach, Tutwiler, Siegle, Gubbins, Callahan, Brodersen, & Mun, 2017). Research shows that the number of gifted students in poverty does not reflect the average of students who are not in poverty and labeled gifted (Callahan & Plucker, 2016; Hamilton et al., 2017; Siegel, Gubbins, O'Rourke, Langley, Mun, Luria, Little, McCoach, Knupp, 2016). Students who live in poverty are up to five times less likely to be enrolled in gifted programs than students in other income brackets (Hodges, Tay, Maeda, & Gentry, 2018). Card and Guiliano (2014) also found that students from a lower socioeconomic background are least likely to meet traditional criteria for entrance in the gifted program.

Gifted students in poverty are overlooked by researchers, who choose to learn of other groups since this demographic often is looked at through plurality within other groups (Van Tassel-Baska, 2017). In schools of poverty, it is thought that a gifted intervention can occur through distance learning through Advanced Placement or Dual Enrollment courses since they might not be offered at the schools of poverty (Azano, Callahan, Brodersen, & Caughey, 2017; Van Tassel-Baska & Hubbard, 2016).

According to Hamilton et al. (2017), there are at least three factors that contribute to the lack of representation of gifted students in poverty. The first factor is that gifted programs use a referral-based system of nomination for students to be labeled as gifted (Hamilton et al., 2017). This system of nomination could be biased against students in poverty (Card & Guiliano, 2015; Carman et al., 2018; Hamilton et al., 2017; McBee,

Miller, & Peters, 2016). In the referral-based system, teachers or parents can refer students to the program. At that point, students will then be evaluated through nationally normed standardized tests. Depending on the teacher's personal definition of gifted, the behaviors and academic motivations of the students of poverty might not mesh with what the teachers ideal of gifted might be, thus the bias actions of the nomination system (Hamilton et al., 2017).

Secondly, gifted students of poverty do not have the same educational opportunities as other students (Hamilton et al., 2017). This could be through lack of exposure of education from families or lack of educational opportunities during the student's pre-formative years (Card & Guiliano, 2015; Hamilton et al., 2017). Lastly, students of poverty often score lower on norm-based achievement assessments of cognitive ability than other students (Card & Guiliano, 2015; Carman et al., 2018; Hamilton et al., 2017). Research shows that students who are on free and reduced lunch often scored lower on achievement scores and lower verbal intelligence (Kaya, Stough, & Juntune, 2016).

According to Bailey and Zumeta (2015), administrators in impoverished rural areas find difficulties in recruiting qualified, gifted teachers. Even though federal mandates state certain responsibilities for special education students, gifted students are often accommodated in a wide variety of ways through state and local departments (Bailey & Zumeta, 2015). Since many districts are struggling with funding for special education, gifted students in poor districts "rarely receive instructional programs designed to meet their unique needs" (Bailey & Zumeta, 2015). Also, many

impoverished and rural school districts use virtual schools to ensure the gifted and talented students are getting opportunities and education they need (Bailey & Zumeta, 2015).

Blended Learning for Gifted Students in Poverty

There is a wealth of blended learning research on English as a second language classrooms or adult education; however, there is very little published research on blended learning and their effects on k-12 students (Canzian, 2010; Sparks, 2015). Canzian (2010) posited that many principals are still not comfortable with technology and did not feel comfortable promoting online learning for k-12 students since k-12 education has been inundated with high stakes tests. Canzian (2010) also states that students of poverty would not excel in a technology-based classroom because they need buy-in from a teacher to make them feel that they are invested in them, thus face-to-face teaching is best for them. As stated previously and in the time since the Canzian article (2010), there is still a gap in the literature related to technology and gifted students, as well as gifted students in poverty; therefore, this section of literature will be helped for a study of this type (Bouck & Hunley, 2014; Plucker & Callahan, 2014; Worrell, 2014; VanTassel-Baska, 2017).

Summary and Conclusions

Within this chapter, there was a review of the literature on the topics of blended learning, students of poverty, and their use of technology. With the U.S. Department of Education's 2017 technology plan calling for personalized learning for students, blended learning could help in meeting the technology plan by the flexibility of the blended

learning models that can allow for individualized learning. However, students' perceptions of blended learning show they are more comfortable in face-to-face contact with their instructors. Underachievement in gifted students comes from boredom in classes where students are not challenged or engaged. Students who live in poverty tend to score lower on achievement tests than other students and are significantly less likely to be involved in gifted programs. In general, gifted students in poverty do not have the same opportunities educationally than other students.

Though there is a great deal of literature on blended learning and its relevance in education; the focus of those studies is on adult education or higher learning. However, there is a lack of studies on blended learning at a secondary level, and that also includes gifted students or students in poverty. There is not a large selection of research on technology education with the demographic of gifted students in poverty. Therefore, this study begins to fill a gap that is needed in this realm of gifted education, as well as students from poverty.

In chapter three, the researcher discusses the research methodology for this exploratory case study. There is an explanation of the research design and rationale and the role of the researcher. Also, the researcher addresses issues of trustworthiness related to credibility, transferability, dependability, and confirmability, as well as describe ethical procedures.

Chapter 3: Research Method

Qualitative research is "the methodological pursuit of understanding the ways that people see, view, approach, and experience the world and make meaning of their experiences as well as specific phenomena within it" (Ravitch & Carl, 2016, p. 8). Ravitch and Carl (2016) claimed that the processes of qualitative research are patterned cyclically, in that all facets are tied together through research questions. The purpose of this qualitative exploratory case study is to explore students' perceptions of blended learning among gifted students in poverty. I researched the problem by speaking with gifted students in poverty to explore accounts of their perceptions of blended learning.

This chapter focuses on the methods of research that are used for this study. The study includes the research design and rationale of the study, the role of the researcher, instrumentation for data, recruitment procedures for participants, and data collection. This chapter also describes the data analysis plan and addresses the trustworthiness of the study and ethical procedures.

Research Design and Rationale

The following central research question for this study related to the conceptual framework and the literature review: What are the perceptions of gifted students on free and reduced lunch regarding being taught using a blended learning pedagogy? The related research questions included the following:

1. What are the attitudes of gifted students on free and reduced lunch toward using technology for education?

2. What perceived usefulness to gifted students on free and reduced lunch see regarding the platforms for blended learning?
3. What is the perceived ease of use of gifted students on free and reduced lunch regarding the platforms that are involved in blended learning?
4. What are the behavioral intentions of gifted students on free and reduced lunch regarding their use of blended learning?

The research questions were directly aligned with the purpose of the study, which explored the perceptions of blended learning for gifted students in poverty. Other qualitative designs, including ethnography, phenomenology, and grounded theory were considered for this study based on the criteria of the research participants, but were rejected. Ethnography was not chosen because I felt it would not adequately fit the educational technology major of my course study. Phenomenology or grounded theory was not chosen because I did not want to develop a theory or understand why the students performed an action. I wanted an answer as to what were the perceptions of blended learning on gifted students who live in poverty. When I understood that I wanted the answer to the perceptions, the decision was made on the exploratory case study.

To determine the proper research method, Yin (2017) claimed that three conditions must be answered before making a decision. The three conditions include the form of research question, whether the study requires a control, and whether the study focuses on contemporary events. By the suggestions of Yin (2017), since this study focused on contemporary events, the study did not require a control, and by the research questions focus on the topic, the exploratory case study was the correct research method

for this study. Yin (2017) stated that "what" research questions can be used in an exploratory manner, like that of an exploratory case study. Yin (2017) also stated that "what" research questions can allow any type of research strategy (Table 2).

Table 2

Case Study Design and Methods

Strategy	Form of Research Question	Requires Control over Behavioral Events	Focuses on Contemporary Events
Experiment	How, why	Yes	Yes
Survey	How, why	No	Yes
Archival Analysis	Who, what, where, how much, how many	No	Yes/No
History	Who, what, where, how much, how many	No	No
Case study	How, why	No	Yes

Yin, R.K. (2017). *Case study research and application: Design and methods.* Sage publications.

A case study allows one to collect different types of data and the researcher can get an in-depth look at the subject (Burkholder, Cox, & Crawford, 2016). Burkholder et al. (2016) stated:

> In terms of the outcome, the case study design provides a comprehensive understanding of a bounded unit and helps the reader examine that case so he or she can learn from it. It also allows others to apply the principles and lessons learned in a case to other cases or situations and leads to transferability. (pp. 233-234).

This approach allowed the researcher to build theory where little current literature and data exists (Yin, 1984). An exploratory case study allowed for more investigation on this

underserved topic (Plucker & Callahan, 2014; VanTassel-Baska, 2017; Worrell, 2014; Yin, 2017).

In case studies, the research questions often ask how or why; while the questions focus on contemporary events; the research questions have no control over the behavioral events that are occurring (Yin, 2017). This case study was an exploratory case study which was used to pose competing explanations for the same set of events and to indicate how such explanations may apply to other situations (Yin, 2017). I explained and helped in understanding the perceptions of blended learning for gifted students who are in poverty. With the interviews of the participants, as well as field notes, I strengthened this case study. Transcriptions of the interviews were verified through member checking, and then coded for matching themes and data analysis.

Role of the Researcher

According to Merriam (2009), the researcher is the primary instrument for data collection and analysis. For this study, I served as the primary researcher and was responsible for all data collection, analysis, and interpretation. The responsibility for selecting the research design, the format of choosing the participants, and developing data sources and strategies for data analysis was mine, as well as looking for bias within the study by improving the trustworthiness of the study.

This study was conducted in the same geographical area where I worked. This area is not only in a high poverty area, but also has a priority in testing students for gifted education. This provided me with access to the participants I needed from a high school in the area. The reason for choosing a district geographically close to my work and

residence was because of the region's high poverty, as well as the school district's push towards future education through technology-based pedagogy.

In an effort to establish a researcher-participant relationship with the participants, I sent a letter or an email to the participant's families introducing myself, explaining the purpose of the study. My letter included no rhetoric that would make the participants feel uncomfortable about participating in the study. In my role as a researcher in this study, I asked the participants to share their perceptions of blended learning, where they felt comfortable to say whatever they needed to about the topic. Before the interview with the participants, I gave them the opportunity to ask questions if they needed any clarification. I kept the interview professional by using an interview-type session and recording the interview through the use of an audio recording device for easy transcription (Rubin & Rubin, 2011). During this process, my role was to actively listen, take notes, respect the participant's ideas, and avoid showing bias (Rubin & Rubin, 2011). Despite working in the county of one of the schools, to avoid bias, I did not select a student as a participant if I had taught that student in the past.

Methodology

Participant Selection

With the study's population being gifted students in poverty, the participants for this study included 10 high school gifted students who were enrolled in the free and reduced lunch program in a public-school district in the northwest corner of the state of Georgia, which is geographically considered in the Southern Appalachian Mountain

region of the United States. The school district has ten elementary schools, four middle schools, and two high schools. I worked with participants in the secondary high school.

The participants were selected through purposeful sampling. Purposeful sampling allowed the researcher to choose participants by deliberately choosing participants that help in answering the study's research questions (Ravitch & Carl, 2016). The participants met several criteria. The students were labeled a gifted student, enrolled in the free and reduced lunch program and enrolled in an Advanced Placement course that used blended learning as an active pedagogy. Once I received permission to begin the study, I allowed the school's guidance department to assist in locating students that fit the criteria. When the pool of students were identified, I then made contact with the students through a letter that was mailed to the parents or an email sent to the parents containing the text of the letter for minors, or to the student if he or she was above the age of 18 (Appendix B; Appendix C). When I had an applicable pool of students, I then found a male and a female in each of the grades between nine through 12th grades. I chose an additional male and a female from the pool in addition to those eight students to round out the participant pool at 10. The high schools had at least one AP class in which students were enrolled, either through using a modified enriched virtual model, or a flex or a la carte model within the face-to-face classes. I looked for the gifted student in poverty enrolled in AP courses because this ensured rigor was involved in the class because of expectations from an approved syllabus and course requirements which are set from the College Board. Yin (2017) stated that a small number of participants in a study is acceptable; therefore, given the specificity of the demographic, 10 participants were

selected for this study. This number provided a wide variety of data and hopefully saturation (Burkholder et al., 2016). If the researcher believed that saturation had not been met by receiving inconsistent data, the option was there to add participants.

Instrumentation

For this study, I designed a set of interview questions for the data instrument (Yin, 2017). To develop the interview guide, I used the conceptual framework as a guide to devise the questions (Appendix A). This framework allowed for specific and focused questions that were aligned with the study's research question and sub-question. Since the case study was focused on the students' perceptions, the questions were focused on the students' perceptions of blended learning.

I established an expert panel to assist me in determining the trustworthiness of the interview questions. The expert panel was comprised of two peers with doctorate degrees in education, and they reviewed the interview questions for content validity to be aligned with the research question and sub-questions.

Interview Questions

The responsive interviews were completed one-on-one. Rubin and Rubin (2011) state that responsive interviews are about making a relationship in order to help find an answer for the study's research question. Through the responsive interviews, I obtained the important details and discovered new aspects about the topic (Rubin & Rubin, 2011). Yin (2017) states that the case study interviewer has two procedures that they must follow: following the line of questions, and asking the conversational questions in an unbiased way. I conducted the interview with an introduction and a set of open-ended

questions that were asked during the interview (Appendix A). However, I did not keep the interview extremely rigid if the flow of the interview went to a different topic (Rubin & Rubin, 2011; Yin, 2017). For instance, if the responses led the interview into discussing perceived usefulness first, instead of attitudes toward technology, I allowed the fluid nature of the interview. For another example of the fluidity, I started by finding out at the beginning of the interview the types of blended learning the student had experienced, and what vocabulary words the students knew when it came to blended learning. Once the experiences and vocabulary were established, I began to individualize the interview questions to the students to make sure I got the most information and to assure alignment from the conceptual framework and of the research questions. I expected these variables to emerge during the interview and I was prepared to ask about the variables within the TAM framework when the time was right during the interview (Table 3, Table 4, Table 5, Table 6, Table 7). Each interview conducted was audio recorded for transcription and analysis purposes. During and after the interviews, I took field notes on the interview to make sure the descriptions, reflections, and important responses were documented. The transcriptions were coded three times to find codes, categories, and themes, then analyzed for patterns related to the research question and the sub-questions of the study.

Table 3.

Sample Alignment of Interview Questions for Research Question

In your AP classes, explain how they use technology?
Describe some of the technology assignments that you have.
When you are assigned a [blended learning] assignment or unit, what are the first few things that pop into your head? What are your feelings about them?
How do you believe that your experiences with [blended learning] have impacted your learning in AP courses?
What factors do you believe influence you to accept the use of technology in AP courses?
What factors do you believe influence your learning of AP content when you use technology?

Table 4.

Sample Alignment of Interview Questions for Subquestion 1(Attitudes)

How would you describe your experience with technology and learning?
What do you normally use technology for in your regular life?
Describe your experiences with technology in your social, academic, and personal life.
What do you enjoy most about being part of learning through technology classes/lessons?
What did you enjoy least about being part of learning through technology classes/lessons?

Table 5.

Sample Alignment of Interview Questions for Subquestion 2 (Perceived Usefulness)

Do you find [BL] useful for you?
Why do you believe that these technologies are or are not useful?

Table 6.

Sample Alignment of Interview Questions for Subquestion 3 (Perceived Ease of Use)

What was your experience with the blended learning platforms?
Do the teachers know how to adequately work the platform?
Do you believe these technologies are or not easy to use? Explain.
Do you have any problems navigating through your [BL] platform? Explain.

Table 7.

Sample Alignment of Interview Questions for Subquestions 4 (Behavioral Intention)

Tell me about your Internet connection at home. Is it reliable?
What kinds of technology devices do you have at home?
What is the best way for you to learn?
How much time do you spend on homework per day?
Do your parents help you with your lessons? If so, how?

Procedures for Recruitment, Participation, and Data Collection

For this study, I followed specific procedures for recruitment, participation, and data collection to ensure the trustworthiness of the study. According to the Family Educational Rights and Privacy Act (FERPA), parents or guardians have certain rights around their student's records (U.S. Department of Education, 2017). When the student turns 18 years of age, the students are considered legally an adult (U.S. Department of Education, 2017). To stay in compliance with the FERPA Act, all correspondence between the researcher and the stakeholders will involve written permission.

For recruitment, I began by contacting the participating district's superintendent via email and attached the superintendent's consent form to request permission to

conduct the study in the district (Appendix E), as well as assent form, and consent forms for participants and parents (Appendix B; Appendix C; Appendix D). Once approval was obtained, I then contacted principals via email for approval via the principal's consent letter (Appendix F) to contact guidance office officials for assistance in finding students that are labeled gifted students, enrolled in free and reduced lunch, and that are taking courses that have components of blended learning. Once I found students that fit the demographic, I emailed or sent a letter home to the student's parents if the student is below 18 years of age (Appendix B) or an email or letter directly home to the student if they are older than 18 (Appendix C). According to Ravitch and Carl (2016), informed consent will give possible participants information about what the research would expect in terms of time, risks, how data will be handled, who would have access to the data, and other aspects of the study. The emails or letters that I sent home to the students (Appendix C) addressed the informed consent for those who are 18 years of age and informed assent for those who are minors (Appendix B). I offered my contacts in the letter if the parents are interested in asking questions.

Once I gained permission from the students, I scheduled an interview with each student. The participating students had one interview, and it occurred at the school or other neutral site of the parent or guardian's suggestion. The interview lasted approximately 30-45 minutes. The interviews were audio recorded by the researcher and then transcribed and sent back to the participant to double check the wording of the transcriptions. During this time, if I had another question that I needed to ask or follow-up, I asked during this time. Once this was finished, the participating student had

completed his or her part of the study, and as an exit show of appreciation, I gave them an unannounced $20 gift card for assistance in the study.

Data Analysis Plan

For this exploratory case study, I conducted a holistic multiple-case replication design analysis (Figure 11, Figure 12). Yin (2017) stated that by using the multiple-case study, "the individual case studies either (a) predict similar results (a literal replication) or (b) predict contrasting results but for anticipatable reasons (a theoretical replication)" (p 80). For this study, the multiple-case study was used to predict results that would allow us to find perceptions of blended learning from gifted students in poverty (Figure 11, Figure 12). Stake (2013) posited that multiple case studies should have enough cases to show reciprocity, however not so many cases to where readers of studies cannot distinguish uniqueness of the case. This is also a holistic multiple case study to assure reliability for evidences (Yin, 2017). It is for reasons of showing reciprocity that I chose ten participants for this study, a male and female in grades nine through 12 and two other secondary students at random within the demographic. For the analysis, I took all participant's interviews and coded them as a single unit. I interviewed and transcribed the interview, as I also audio recorded the interview. To do this, I interviewed, transcribed and organized the data into digital files that were stored on my personal computer. Once transcribed, I sent the interview transcription to the student through email for member checking (Burkholder et al., 2016). The member checking allowed for participants to check the interpretation of their responses (Burkholder et al., 2016). This allowed for the accuracy of the data that helped in the proper coding of the transcription.

Once the student reviewed and approved the transcription, I then began the coding process.

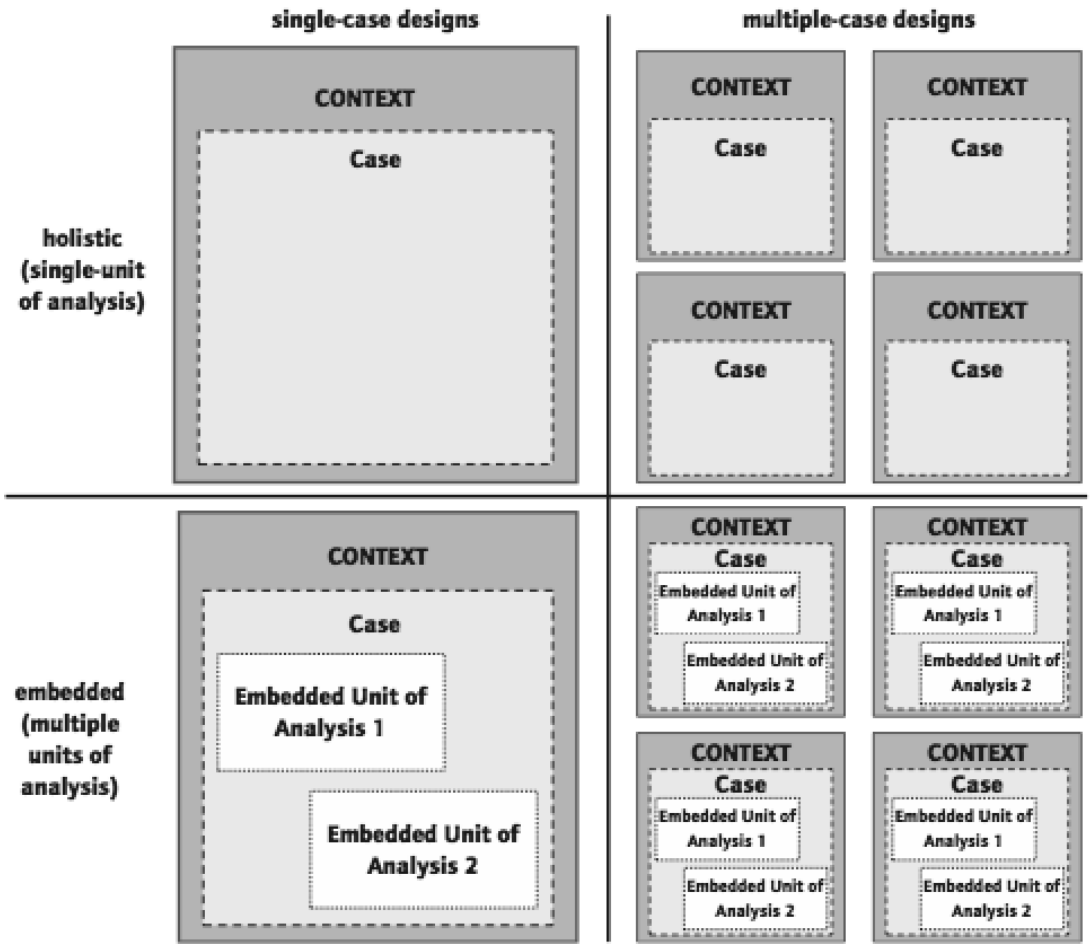

Figure 11. Case Designs. From Yin, R. K. (2017). *Case study research and applications: Design and methods*. Sage publications, [Image].

I codified the interview for each participant by starting with open coding, then axial coding (Ravitch & Carl, 2016; Saldana, 2016). From the coding, I was able to find categories and themes that allowed the data analysis to move forward (Saldana, 2016). I used as many rounds of coding as I felt necessary to get the themes that I needed for the

data to reach saturation (Ravitch & Carl, 2016; Saldana, 2016). Once coded, I used the MaxQDA software to assist in managing the data. It was at this point that the multiple-case design became evident, and I took the codes, categories, and emerging themes from the interviews and started analyzing them as a whole (Figure 12). It was through the coding that I fully analyzed the data and came up with findings and conclusions of the study (Rubin & Rubin, 2011). When looking for outliers within the data, I looked for significant differences in the data sources that could alter the theoretical proposition of the study (Yin, 2017).

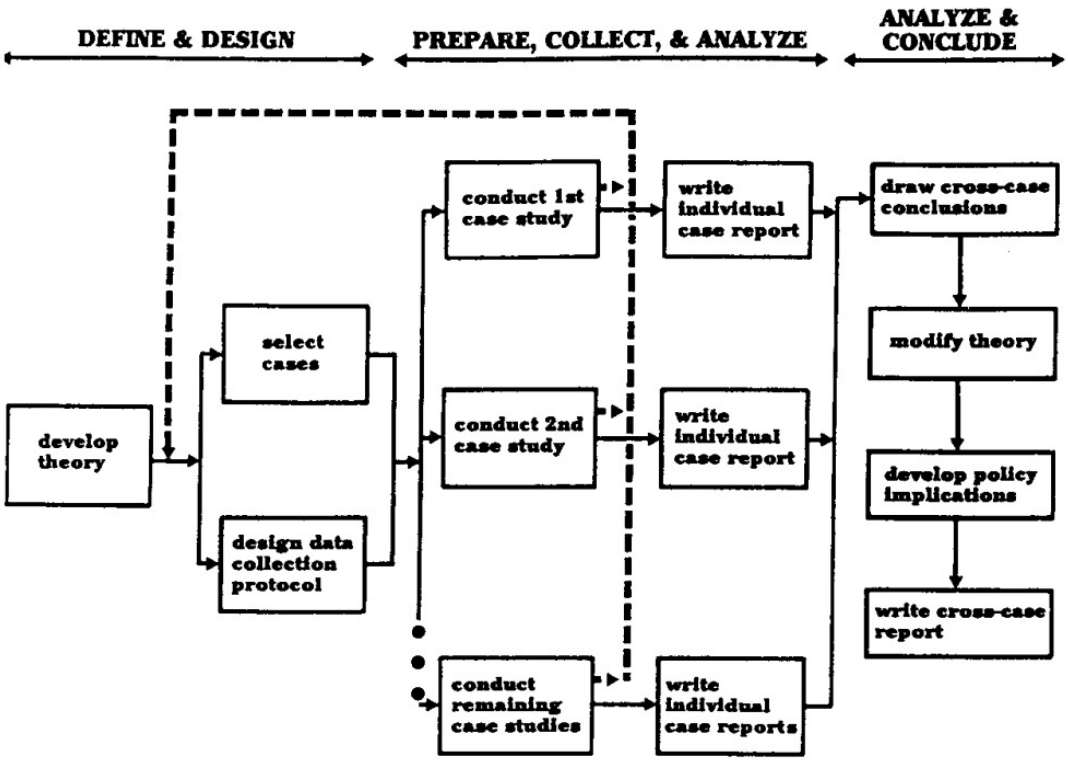

Figure 12. Multiple Case Study. From Yin, R. K. (2017). *Case study research and applications: Design and methods*. Sage publications, [Image].

Trustworthiness

According to Ravitch and Carl (2016), trustworthiness "refers to the ways that researchers can affirm that their findings are faithful to participants' experiences" (p. 226). The trustworthiness of a qualitative study is demonstrated through credibility, transferability, dependability, and conformability. This section discusses the strategies that I used to improve the trustworthiness of this study.

Credibility

Credibility is the findings of a study are believable according to the data that is presented (Burkholder et al., 2016; Merriam, 2009; Ravitch & Carl, 2016). Credibility allows us to judge the results of a study as believable in the context of the study and associated theories. Credibility can be established by using different strategies such as "prolonged engagement, persistent observation, peer debriefing, negative case analysis, progressive subjectivity, member checking, triangulation, and reflexivity" (Burkholder et al., 2016, Trustworthiness in Qualitative Studies section, para. 3). Credibility of the study is found through reflexivity, peer debriefing, and member checking.

For the reflexivity of this study, I kept a reflexive journal to see how my position within the schools was not influenced as a result of the research process. I made sure that everything from choosing the methodology to interpreting the results was scrutinized and made sure that no bias occurred. Since I worked in the school system where the participants were chosen, I constantly examined myself as the researcher and made sure to suspend assumptions and preconceived notions through reflexive journaling.

I planned to use peer briefing as another way to establish credibility in this study. Peer debriefing involved examining with a qualified peer that was not involved in the study through discussions about the progress of the study, data analysis, and possible findings (Burkholder et al., 2016). The peer assisted in clarifying conclusions that I made and assured an absence of bias.

I also used member checking in this study for the accuracy of the interpretation of the transcription. Ravitch and Carl (2016) stated that member checks are the most important measure to establish credibility so participants can have the ability to react if the interpretation is not accurate. As soon as the interviews were transcribed, I sent emails with the transcriptions to the participants to check and make sure that I had accurately represented them. I kept a scheduled timeline so the interviews were still fresh in the minds of the participants, as the accuracy of the transcriptions was essential in the credibility of the study.

Transferability

For a study to establish transferability, it must provide the readers with evidence of how the findings can be used in other contexts within the topic (Burkholder et al., 2016; Rubin & Rubin, 2011). The transferability of this study showed thick description and maximum variation. Ravitch and Carl (2016) defined thick description as detailed descriptions of the data and context. For this study, I used a thick description of the setting and the participants by giving a detailed description of both for readers and possible researchers to determine if the findings can be transferred. Transferability was also shown through the maximum variation that I used in choosing the participants of this

study. Despite the specific demographic of high school students who are labeled gifted and live in poverty, the sampling showed common patterns across the researched demographic.

Dependability

Within a qualitative study, the reliability that one finds within quantitative research is called dependability. The dependability suggests the likelihood of the study being repeated (Burkholder et al., 2016; Merriam, 2009; Ravitch & Carl, 2017). Since the qualitative nature of the study did not allow for the cross-checks of the quantitative study, I kept an audit trail of the study (Burkholder et al., 2016). Through the audit trail, there was a proper record of all aspects of data collection. Interview session notes were taken during and after the interviews. Coding notes were taken as well. While coding the data, the researcher assured that intracoder reliability was established. I coded this study myself; therefore, intercoder reliability did not apply here. However, intracoder reliability occurred as I was consistent in coding the data that was collected in the interview process of the case study, which is shown through the code book (Figure 13).

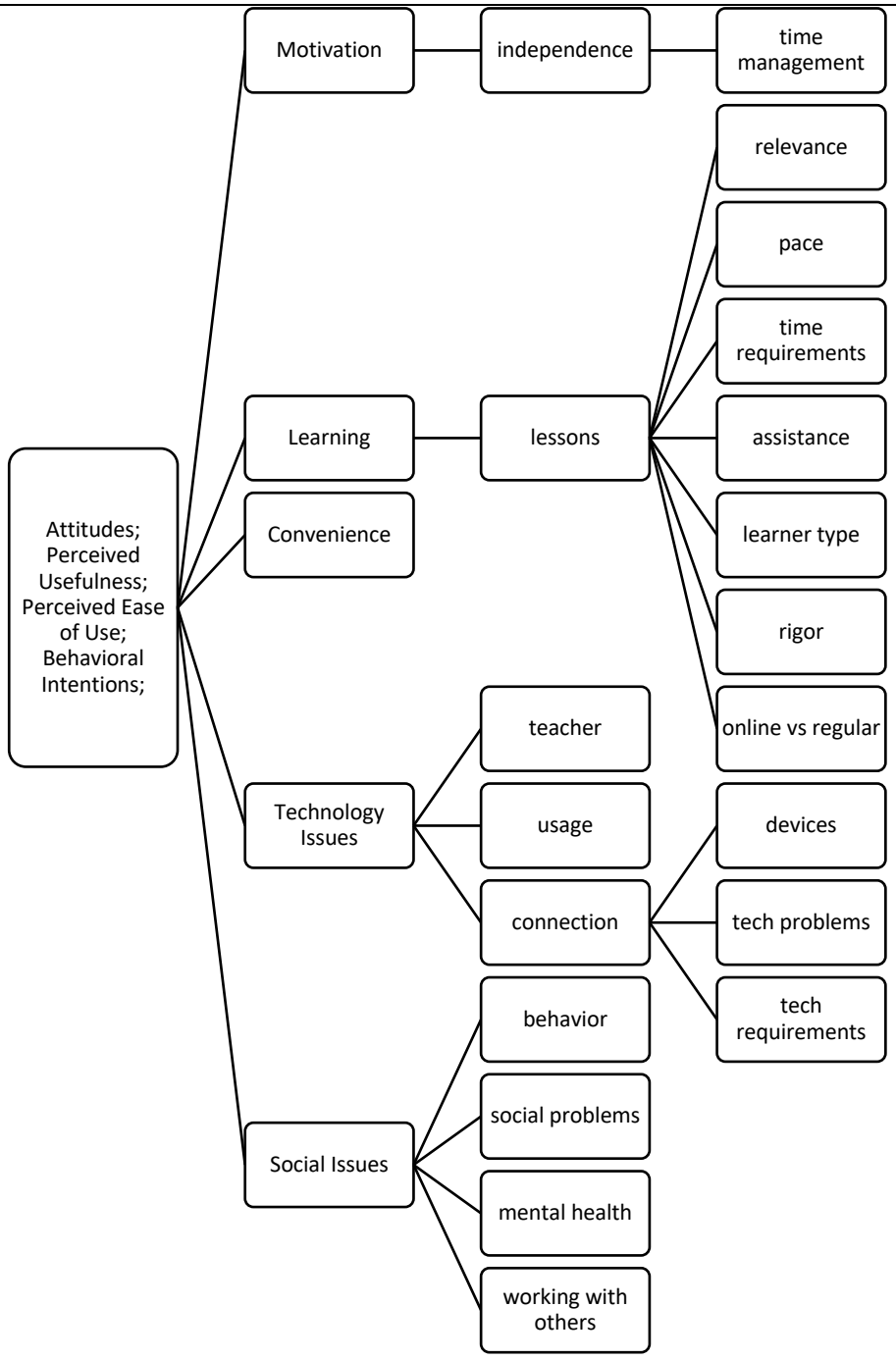

Figure 13. Code Book

Confirmability

Within a qualitative study, the objectivity that one would find within quantitative research is called confirmability (Burkholder et al., 2016; Ravitch & Carl, 2016). The confirmability suggests if the researcher can be able to remain neutral in the study (Burkholder et al., 2016; Ravitch & Carl, 2016). As stated in the credibility section, a reflexibility journal was kept to minimize bias in the study so that I remained impartial by being aware of my biases during the research process.

Ethical Procedures

I followed the guidelines for the Institutional Review Board (IRB) at Walden University to make sure that the study was complying with all ethical requirements. I followed ethical procedures by applying to the IRB at Walden University (Appendix H). To assure ethical concerns did not occur, I was held accountable for collecting all of the research data. I held all transcripts and notes that I took during the interviews on my home computer under password encrypted software.

The participants were informed in their Consent Form for Research (Appendix C), the Parental Consent Form for Research (Appendix B), and the Assent Form for Research (Appendix D) of the ethical procedures of the study. No participants were harmed in this study. The students could have withdrawn at any time during the study without penalty or fear of any consequences. The interview questions were not intended to embarrass the students. I obtained letters of consent from the district superintendent (Appendix E), as well as principal of the chosen high school (Appendix F). I emailed or sent out letters of consent to students over the age of 18 (Appendix C) and to those students who were minors (Appendix B), in which the parents needed to have their signature on the consent

form. Having the consent forms allowed the stakeholders to be aware of the purpose of the study. It was a prerequisite for the study to have the consent forms signed.

All data was and will remain confidential. All names, schools, and school systems involved in the study were given a pseudonym. The participants were made aware that there were others within the school system participating in the study, and all collection of data was protected and private. After the research study was concluded, the transcripts and other data that was collected in the study is being stored for five years. When the five-year period ends, the information is going to be shredded, discarded, and deleted from computers.

The potential risk of this study to the students was minimal. The research that came from the study benefits the gifted students who live in low socioeconomic settings and their use of technology-based pedagogies. This also benefits educators and school system's technology coordinators, as well as the students. Through this study, I gained insight into the educational technology usage of the demographic, as well as finding the perceptions of blended learning for gifted students in poverty.

Summary

In this third chapter, I have described the design of the study, the planned selection procedures of the participants, and the data collection plan. Also, the researcher discussed the data analysis plan with coding procedures and data software. The chapter concluded with an explanation of how the study will ensure aspects of trustworthiness and ethical procedures. Chapter four of this study includes the researcher's findings

within the study. Finally, chapter five discusses the results, lay out any recommendations, and suggestions for further research.

Chapter 4: Results

The purpose of this qualitative exploratory case study was to gain insights as to the perceptions of gifted students on free and reduced lunch on the subject of blended learning. I used interviews of participants and field notes to collect data. The data that were collected provided insight into how low-income gifted students perceived blended learning and technology used in education. A single research question led the study: What are the perceptions of gifted students on free and reduced lunch regarding being taught using the blended learning pedagogy? The research had four subquestions that allowed the study to be guided by the technology acceptance model. Those subquestions were:

1. What are the attitudes of gifted students on free and reduced lunch toward using technology for learning?
2. What perceived usefulness to gifted students on free and reduced lunch see regarding the platforms for blended learning?
3. What is the perceived ease of use of gifted students on free and reduced lunch regarding the platforms that are involved in blended learning?
4. What are behavioral intentions of gifted students on free and reduced lunch regarding their use of blended learning?

This chapter discusses the description of the participants of the study and setting, discussion of the data collection, and themes found during the data analysis in terms of the research question and subquestions. There will also be a discussion of the results of

the study, as well as an assurance of evidence of trustworthiness of the procedures that were used during the study.

Setting

The study took place in a school district in the Southeastern United States. This school district has ten elementary schools, four middle schools, and two high schools. I selected participants from one of the secondary high schools within the region.

The county where the study was conducted has an area of 447 square miles. According to the 2010 census, the county has 68,756 people, with the demographic makeup being 93.0%, 4.3% black, 2.2% Hispanic or Latino, 1.6% multiracial, and .6% Asian (United States Census Bureau, 2014). The median income for a household within the county was $38,723, and per capita income was $19,440 (United States Census Bureau, 2014). 15.6% of the population are living below the poverty line (United States Census Bureau, 2014). According to the census, 80.7% of households have a computer, while 70.6% had broadband Internet between the years of 2013-2017 (United States Census Bureau, 2018). Only 15.5% of the population has a Bachelor's degree (United States Census Bureau, 2018). Also, 14.3% under the age of 65 did not have health insurance as of 2017 (United States Census Bureau, 2018). Nearly one-third of adults are in manufacturing as manufacturing is the largest industry in the area (United States Census Bureau, 2018). The county is labeled Title I districts because of the high numbers of students enrolled in the Free and Reduced Lunch Program.

At the school where the study was conducted, the student population is 1,385. The students consist of 55%/45% male/female ratio. There is a 17% minority enrollment

at the school. Also, around 15% of the school are enrolled in Advanced Placement courses. The school that was used in the study currently has 73.8% of its students enrolled in the Free and Reduced Lunch Program (Georgia Department of Education, 2019).

During the time of the study, there were no conditions that could have affected the interpretation of the study results. All interviews occurred after school hours and were set up by the participants or participant's guardians. All interviews were done through a comfortable, unstructured conversation format.

Demographics

Ten participants were selected for the study. All students were labeled gifted, were on free and reduced lunch, and were enrolled in an Advanced Placement course with blended learning components within the course. The researcher interviewed five males and five females from grades nine through twelfth. In selecting 10 participants for the study, the researcher achieved saturation within the data (Ravitch & Carl, 2016). Data saturation refers to the point that the researcher no longer finds new themes in their data (Burkholder, Cox, & Crawford, 2016; Ravitch & Carl, 2016; Yin, 2017). With a number less than 10, the researcher might not find data saturation. Yet, I was comfortable with finding saturation with 10 participants, through four cycles of data coding. Of the 10 students in the participant pool, eight were Caucasian, one was Hispanic, and one was African-American. The participant pool demographics were consistent with that of the school population.

Table 8

Participants of the Study

Participant	Gender	Race	Grade Level
Student A	Female	White	9th
Student B	Male	White	11th
Student C	Male	Hispanic	12th
Student D	Female	White	12th
Student E	Male	White	9th
Student F	Male	White	12th
Student G	Female	White	11th
Student H	Female	White	10th
Student J	Male	White	10th
Student K	Female	Black	12th

Ninth Grade Participants

The two students from the ninth grade, Student A and E, were limited in their knowledge of blended learning in an AP course, as both were only taking a single AP course, AP Human Geography (Table 8). At the school, freshmen are only allowed to take one AP course, which is AP Human Geography. Because of the limited experience with blended learning, I did allow the students to also talk about the blended learning that was occurring in their Honors classes as well. Both students were enrolled in an Honors

English I, an Honors Math I, and an Honors Physics course, all using different models of blended learning.

10th Grade Participants

The two students from 10th grade, Student H and I, were both enrolled in only one AP class during their sophomore year, and that was AP World History (Table 8). Both students had only taken two AP courses during the time of the interview, AP Human Geography their freshmen year and AP World History in their current term. During the interview, if the students talked about their core Honors courses, as well as their AP courses, I allowed the discussion as long as they were discussing blended learning. Both students were enrolled in an Honors English II, an Honors Biology, and Honors Math II, and an Honors Spanish I course, all using varying models of blended learning.

11th Grade Participants

The two students from eleventh grade, Student B and G, both had extensive knowledge of blended learning through their enrollment in online courses, as well as their class enrollment during the year (Table 8). Both students were enrolled in two AP courses, AP Language and Composition and AP United States History while taking AP courses in the past. However, Student G was taking courses through a virtual school inside the school. Student G was enrolled in the virtual school courses to accelerate through her academic career so she could assist her family through employment to help her family with living expenses.

12th Grade Participants

There were four senior participants in this study, Student C, D, F, and J (Table 8). First, there were the two senior participants, then the two students that were chosen at random were seniors as well. With the lack of experience with blended learning in AP courses with the younger students, having the two random participants being seniors allowed for students who have taken more AP classes to be participants in the study. At the school, most AP courses can be taken by seniors. These courses are AP Government, AP Environmental Science, AP Literature and Composition, AP Chemistry, AP Psychology, AP Computer Science Principles, AP Biology, AP Calculus AB, and AP Statistics. Student C and Student D were both enrolled in an AP Computer Science class that was taught through an enriched virtual model of blended learning. Student F was very open about his love of learning from the computer, but he is currently serving a technology ban because of his misappropriate use of technology. Finally, Student K, though very reserved, did not use educational technology until she was in high school. With the participants being so different in familiarity with educational technology and blended learning, this allowed the research to be heterogeneous.

Data Collection

The data collection for this study took place between November 2018 and January of 2019. It was during this time that I began sending emails to superintendents and principals to get approval to use their students for the study. Though I received some positive feedback, I did not obtain approval from the desired number of schools. When I had exhausted all possibilities, I requested a change of procedure from Walden University's IRB. Within that change of procedure, I asked if I could change the

procedure to still use ten students; however, I would use only one school to obtain the 10 students. My request for a change in procedure was approved by the IRB from Walden University (IRB # 12-03-18-0660532).

After the procedure change and the school approvals were obtained, I received a pool of students that were applicable to the study by guidance officials at the school. I then contacted parents and students, once the students agreed to be a part of the study, and the legality signature was obtained, the students were ready to begin as a participant of the study.

There were 10 participants who were interviewed for this case study. I interviewed the students after school hours during times that were set up by the participants and their families. The interviews took place in a classroom that was provided by the school. The interview questions were general to the research sub-questions (Table 3, Table 4, Table 5, Table 6, Table 7). However, to assure of the comfortable nature, there were variations of questions that were asked throughout the interviews. This caused the same questions not to be asked in all interviews; however, variations of the questions from the research questions were asked throughout. For example, for the research sub-question of what are gifted students in poverty's attitudes toward using technology used for education, there were several variations of questions dealing with the category of social aspects of blended learning. For Student G, the interview section on social aspects began when she began to reiterate of her being an independent learner:

For me, being at home is so much more easier to focus and learn and comfortable and not panicky like I would be at school where there are all of these distractions and noises and I only have an hour to get through a lesson if I don't get it, then you don't get it and you have to move on. I am more of an independent learner. And I never really wanted to be, most people aren't and most people find it easier to learn in a classroom setting but it has never really worked for me. I do better by myself.

From there, I decided to juxtapose her independent learning, so I then asked about group work:

Do you have to do group work?

You can. With the live lessons, you have one every week for every class. So, if you want to you can stay afterwards for these little group activities that you can group off. They might be something like you have to write…pick out things from a poem or describe this picture with so many adjectives, then describe how all of these adjectives describes the picture. That is actually how I met one of the only friends I have from school. Her name is Jenna, and she lives in Alpharetta. And we met up…we went on a field trip and went to see the Christmas Story at the Shakespeare Tavern in Atlanta. We took a class field trip and I met up with her. We are going to meet up for coffee at a cafe at a midpoint between her and I.

Do you feel at all that you have…that this has held you back socially? In comparison with regular school?

I don't know. At first, I did because I was sitting at home alone in my pajamas working on school work and that is all I have going for me. But I feel it has helped me mature more so I don't think I need all of the…I mean I have friends, but I think I have matured…now, if I think I need it I will call a friend and say, "I need to come over and be with someone else for a while or I will go insane." My friends understand that. So, I have one friend who is on homebound, so I will go over to his house a lot. We don't often talk a lot, but we both just sit there and work. It is like we understand that we need to have someone else there. Or if it is outside of that, I will call another friend and say "hey, let's go downtown, I need to get out." Because he is the only person who wants to hang out with me anymore. Like I have made friends through other outlets, and they are friends with me for other reasons than just because I see them 5 of the 7 days in a week.

In comparison, with Student E, who was not experienced with technology in his personal life, I had to ask multiple questions to get a response:

Let's think about your first experiences with technology on a social basis. Can you recall them?

Social basis, well we didn't have Internet until about 2-3 years ago that we connected to. So that is probably it.

How do you like the social aspect of a computer lesson, or learning through blended learning?

Can you elaborate on that? Not sure I get what you are asking.

So let's say with your Google Classroom lessons, have you done a group exercise with it?

Well yes, I have. I have done that a time or two.

What did you think about it socially?

Well it was handy to some extent. But to some extent it got to a point where it was almost like cheating in a way.

Explain.

Well you have people doing this section, and you have people doing another section, and sometimes work ain't distributed fairly and that is just one of things that happens.

Student H was a verbal student who enjoyed talking. It was not uncommon for her to touch on multiple research sub-questions in answering one question. After her discussing on and off the social aspect of learning, I asked her the following and got the following answer:

Can you recall the first time you used technology on a social basis?

I know I didn't get a Facebook until I was in 4th grade. I had like a Nickelodeon / Nick Jr. account when the Internet was just getting popular. I was like 4 or 5, we would go online and watch videos, and I would mess with him and change the videos in the middle. That was our first introduction to technology. However, I didn't get my first social media account until I was in 5th grade when I got a deviant art account, and I just wanted to post my art somewhere…plus that was a coping mechanism...not going to go into the details why.

You don't have to.

Think about blended learning, how do you feel about the social aspect of blended learning, especially when others are involved?

It's ok, but the flaw is not everybody can turn in the assignment. Only one person can turn in the assignment and sometimes it glitches out and doesn't show how it is shared with. I have had this problem before with my own Google docs and stuff. But that is like I would say the main problem with the social aspect. And if you turn in something and you go back and look at it, then you cannot return it in. That is a problem in my opinion.

Though the exact questions were not asked throughout all of the interviews, the sub-research questions were discussed within the variations of questions and time throughout the interviews.

The interviews lasted from 25 to 48 minutes. I took field notes during the interviews while the conversations were being recorded. The interviews were audio recorded through a portable recording device and the Voice Memo application on an iPhone, then transcribed for member checking and data collection. During the member checking process, the participants were sent the interview's transcripts via email for their review. It is during this process that the participants were asked to revise their answers if they felt that the transcripts did not accurately convey their answers. Once the participants reviewed the transcripts for member checking, the data analysis began. Within the layout of the plan that was presented earlier, all data collection plans were the

same as the original plan. There were no issues that presented itself during data collection; therefore, the data collection occurred just as planned.

Data Analysis

As soon as the member checked transcripts were ready for coding, I began open inductive coding on the interviews through line-by-line coding using the MaxQDA data analysis program. The main themes were behavioral intentions, perceived ease of use, perceived usefulness, and attitudes toward technology. On the second coding cycle, the categories of motivation, learning, convenience, technology, and social issues became prevalent. The third coding cycle revealed codes of independence, lessons, teacher, usage, connection, device, technology problems, technology requirements, behavior, social problems, and mental health. The fourth cycling of coding revealed condensed meaning units of time management, lesson relevance, pace, time requirements, learning environment, help in lessons, learner type, rigor, and online vs. regular. I continued to analyze the transcripts until the coding process was exhausted, in this instance was on the fourth cycle of coding. During the analysis, I placed the themes, categories, and codes in sections that aligned with the research sub-questions from the Technology Acceptance Model.

As stated, the set of themes came from the TAM. This was done to keep the study grounded toward my research questions. Of those themes, behavioral intentions was the most frequent theme from the transcripts, with 31.79% of the segments (Table 9). Perceived ease of use was the code that occurred least frequently (Table 9).

Table 9

Themes Percentages

Code	Coded segments of all documents	% Coded segments of all documents	Documents
Behavioral intentions	89	31.79	10
Perceived usefulness	72	25.71	10
Perceived ease of use	53	18.93	10
Attitudes toward technology	61	21.79	10

In the search for categories, I found a common category of motivation from the students in academics. There was a common category of learning throughout the interviews, as well as the convenience of blended learning. There was also a common category of technology issues from the student or the school, as well as the student's ability to be social through technology.

In search of codes for the study, the most popular codes were independence, lessons, technology requirements, teacher issues, Internet connection, behavior, social problems, mental health, and working with others. These codes were both favorable and unfavorable towards blended learning from the perceptions of gifted students in poverty. The fourth coding occurred after I realized that some of the codes in the third round of coding needed to be broken down further. Those codes were time management, lesson relevance, pace of lessons, time requirements of lessons, assistance of lessons, learning type, rigor of lessons, online vs regular, device usage, technology problems, and technology requirements.

Table 10

Codes found on 3rd and 4th cycles of coding

Code	Coded segments of all documents	% Coded segments of all documents	% Coded segments of activated documents	Documents
convenience	17	3.36	3.36	8
behavior	13	2.57	2.57	5
teacher	28	5.53	5.53	10
lesson relevance	29	5.73	5.73	9
pace	14	2.77	2.77	4
usage	85	16.80	16.80	10
connection	21	4.15	4.15	10
devices	17	3.36	3.36	10
time requirements	10	1.98	1.98	7
parents/family	23	4.55	4.55	10
lesson requirements	26	5.14	5.14	8
learn	10	1.98	1.98	9
environment	4	0.79	0.79	2
help in lessons	3	0.59	0.59	3
school scheduling	1	0.20	0.20	1
social	36	7.11	7.11	10
independence	3	0.59	0.59	2
social problems	6	1.19	1.19	4
lessons	36	7.11	7.11	10
learner type	22	4.35	4.35	10
mental health	1	0.20	0.20	1
rigor	1	0.20	0.20	1
online vs regular	19	3.75	3.75	7
tech problems	46	9.09	9.09	10
tech requirements	19	3.75	3.75	9
time management	5	0.99	0.99	4
motivation	10	1.98	1.98	7

The most common code found was technology usage with the code being found in 16.8% of the codes. The technology usage code found that most students used technology for entertainment purposes, like watching videos on YouTube, playing video games, or texting with friends. The use of devices was not an issue for students. They all had devices and used them for educational purposes, but it was not their preferred choice, as they preferred to use their devices for entertainment purposes.

Another common code was technology problems, which was found on 9.09% of the codes (Table 10). There was a consistent issue with devices and connection issues within the school, which were blamed by the students on antiquated devices and server problems that would delete the progress that students had made on blended assignments when problems occurred. Student J stated, "if you lose connection at school, you don't really…it sucks to lose your connection, or if you don't get something saved that always happens at the worst times because you can't get it back. You just lose it. And with paper, you don't." When coming across aged devices, the students discussed devices with missing keys on keyboards or cracked screened. Student B said when discussing devices at school, "A lot of them are just very poorly maintenanced. Most of them are broken most of the time, and the teachers don't have anything to do with it because the IT guys are just sitting there with a thumb up their butts. They don't do anything. So that forces us to use broken technology." However, students understood that the school system was limited on money and seemed willing to work on what was available to the student, as well as being willing to work through the technology problems that come up.

The common code of family or parents was shown in 4.55%, with a majority of the students getting no help with their school work from their guardian (Table 10). Only two of the 10 students reported that their guardians help the participants with their blended learning lessons and/or their homework. Most participants stated they did not see their parents a great deal because of their parents or guardians' work schedule, with the parent or guardian getting home at a late hour and the participant not wanting to bother them. Student B discussed that his mother runs a store that causes her to be home around 3 am, so he did not see his mother often. Several discussed that their guardians did not understand the work they were doing. As Student D claimed, "They don't know what I am learning because they both like dropped out. They look at my work and say I have no clue what this is. One time I used the word "obscure" and my grandpa was like, 'what does that mean?'" Student A said while laughing, "[my parents] try to [help with my homework] but they mostly do not understand it."

Another common code was the pace of learning and the ability to learn on the student's own time and schedule, with it being found in 2.77% of the codes (Table 10). This was shown best by Student G, "So, it is kinda up to the person, up to what you do best, for work with me it is better to sit on my own and do as much as possible. Because if I have to work, it will be fine…I feel like I learn just as much if not more, it is just at my pace." Student G has to work several jobs to help her family. She chose to take multiple classes on an online platform through an Enriched Virtual model and A La Mode model to be able to take more of a workload to assist with her family. For Student

G, she can complete the class at a faster pace because she can work ahead depending on her work schedule.

Discrepant Cases

I felt that there was a good representation of all types of students that were interviewed. There was one student, Student K, that did not want to elaborate on answers. The student's answers were short and to the point, and I could not get her to elaborate on her answers, even through the member checking process. However, some of the student's answers were helpful toward the research sub-questions; therefore, I kept the student's transcription in the coding process, and did not throw it out.

With this case study, there were two other participants that could be considered discrepant cases. However, the cases were the opposite of one another. Student B felt that blended learning was a "waste of time" because the assignments and learning process within the platform were "busy work," and this student "learned nothing." Student B often would go home and learn the information himself instead of the process from the platform or teacher. However, I felt his information was very useful in that his learning style was independent, and the blended learning did not appeal to this learning style. Within the demographic of gifted students in poverty, I felt that independent learners should be documented since there is a lack of research on this demographic. Also, his answers helped with the sub-questions of attitudes and behavioral intentions through his independent learning style. Student D could also be discrepant. However, he was a student that had not used technology in education until the middle of his eighth-grade year (he is currently a ninth grader). Student D said while discussing research,

> My least favorite part, I guess it would just be research. People get this idea that things are so easy to find on the computer. But the truth is that it's just not easy. It is not always easy to find a reliable source right then and there. A book has what you need. The people that designed the curriculum came up with the book so why would we want to go away from that?

However, as long as he found the blended learning content relevant, he enjoyed the learning. Also, this student's answers helped answer all research sub-questions, as his information helped in all sub-questions. I chose to leave Student B and D in the study because I felt it was important to have their opinions heard, since the topic has a lack of research.

The study did not contain static questions that all participants were asked. This was done because I was trying to obtain as much information from the participants as I could about the research question and the research sub-questions. In some interviews, students would answer some questions when other questions were asked. When that happened, I had to alter the questions to make sure students were discussing enough about a research sub-question. However, I felt that all research sub-questions were discussed sufficiently and analyzed as such.

Results

The results of this study showed an overall positive perception of blended learning from gifted students who were on free and reduced lunch. The participants had a positive attitude toward educational technology. The participants also had an overwhelmingly positive outlook on behavioral intentions of using educational

technology. The participants also felt the perceived usefulness and the perceived ease of use of blended learning platforms were attainable for them. The results were compiled keeping the contextual framework in mind, just as the Technology Acceptance Model was the focus of the research question and sub-questions. Also, with this exploratory case study, the researcher posed competing explanations for the same set of events to indicate how such explanations may apply to other situations (Yin, 2017). The results will be discussed with the sub-questions analyzed first.

Research Subquestion 1: What Are the Attitudes of Gifted Students on Free and Reduced Lunch Toward Using Technology for Education?

Overall, participants began using technology at an early age. Most students stated that they had some interaction with educational technology in elementary school; however, it was not consistent and was used for lessons such as typing. From their memory, it was just enough to meet a state educational standard for learning. Student E recalled about his elementary technology usage, "We had computers at the computer lab. But there wasn't many in the classroom. You might go once a week to the lab. It was a certain room with a bunch of computers, and you would do something like practicing typing, or something like that." Student H claimed that she started using technology in Kindergarten when she used "this typing program called Dance Mat Typing. I was really good at that as a child. So that is where I learned to type so fast." Student K stated that she did not use technology in an educational manner until middle school when "we had to take tests on iPads." Because of lack of technology within the feeder schools, the lower level of educational usage, like learning to type, was the extent of most of the students.

The students mainly learned technology on their own and educational technology were not used widely in the curriculum until their entering high school. This could affect the student's attitudes toward technology in education because they were not familiar with using technology in an educational setting on a regular basis.

Despite the financial struggles of the families involved, all had an Internet connection of some sort, either through wireless Internet or through using data plans. Because of the relatively inexpensive plans for connection in the area, nine of the 10 participants have a wireless Internet connection at home. One of the nine with wireless Internet, Student K, uses the complimentary Wi-Fi given to the students by a non-profit organization to underprivileged students. Student K described it as "not that good…it glitches out a lot and it is minimized with only a certain megabytes that you could use." Student A relies on a data plan for her connection. This student shares data with her family of four, and that severely hampers her usage or even ability to complete assignments. To curb this, the student often gets to school early or visits places that have free wireless Internet to make sure assignments are completed. The participants having Internet connection allows for a positive influence on attitudes of using technology in education because they have Internet capabilities, and thus being able to use technology for educational purposes. Without Internet connections, blended learning platforms could not be used properly for the student's educational purposes.

When it comes to devices, these students are much like any other teenager (Ballarotto, Volpi, Marzilli, & Tambelli, 2018). All ten participants had the use of a smartphone. Nine of the ten had access to a computer at home; however, five of the

participants complained that the computer had major issues, and it was not used often. The use of gaming devices was the trend with the participants with seven of the ten using gaming devices regularly. According to Payne (2018), people of poverty tend to be attracted to instant gratification. As a result, people of poverty may purchase items that they do not need because it makes them feel better on a short-term level instead of saving for something of need (Payne, 2018). Student H showed this in explaining her technology situation for her house. There are seven people who live in this house. Student H lives in her grandparent's small house with her disabled grandfather, her working grandmother, Student H and her three siblings, as well as her unstable mother. The house has a total of two computers, three phones, five televisions, four gaming consoles, three portable gaming devices, one tablet and "we are getting Roku's for the house, so we don't have to use cable." However, for Student H, she felt best when she had something that was hers. Most of the participants had a smart phone, a computer, and a gaming device. With the ability to use a personal device for education, the opportunity to be online and learn from the technology improves the student's attitude toward technology for education.

In answering the sub-question for the attitudes toward technology in education, the student's answers showed that they enjoyed using it as long as it was meaningful. For the freshmen and sophomore students, the students explained of a rotational model of which lower-order thinking skills from Bloom's Taxonomy were activated (Bloom, 1956). Student B stated, "90% of it is busy work." However, older students have a different mindset about it. They seemed more intrigued. Student D said,

> I guess with computers it offers a different dimension of learning that like textbooks do. And like you have a lot more resources at your hand. Especially like now, when [a friend] and I are partners, we both know a decent bit about computers. So, it just like widens the opportunities that we can do with all that. Also, it is just real convenient having everything right there.

Student F said,

> I think it's absolutely amazing. Let's say you are writing an essay and you want some help with a certain paragraph or area. You can just add a classmate to the essay, chat with them on the built-in chat feature on Google Docs, and they can help you out. I believe this helps so many students due to the difference between peer to peer learning versus student to teacher. There will always be a sort of barrier between a student and a teacher, but that isn't really there with your fellow students.

When interpreting the comments of the younger students, those in ninth or 10th grades, to the older students who were juniors or seniors, there seemed to be a lack of cohesion with the principles of blended learning and the teacher's delivery of the lesson. Student E and D described blended learning assessments as the teacher allowing the students to learn through researching a topic on his own and redeliver the information learned through a presentation as a common assignment that he did in class. The younger students discussed the lower level learning that occurred with their blended learning, like knowledge attainment or practice assessments. On the contrary, the upperclassmen had more curriculum appropriate units that were more meaningful to their learning, like

problem-solving and enrichment opportunities within their practice of the topic. Student D described a blended learning lesson in her AP Computer Science class as the following:

> I think it is useful, because a lot of my stuff, especially in computer science, is all about application, because that is all computer science is all about. You aren't just memorizing vocabulary words. You are learning how to code and how to put stuff together and make apps and webpages…That real application that you can use for other projects and stuff.

This response was common in the interviews.

Participant attitudes toward technology in education were shown to be positively affected. The students enjoy using the technology, even if there were issues in using technology at school. They have the ability to use technology at home. Though they may prefer using technology to do other things, they will use the technology to assist in their lessons. Therefore, the sub-question was answered by the participants responses that have positive attitudes about their experiences with technology use for education.

Research Subquestion 2: What Perceived Usefulness to Gifted Students on Free and Reduced Lunch See Regarding the Platforms for Blended Learning?

Though some answers were cross-coded with different research questions, the basic results of this sub-question came with older students (juniors and seniors) finding blended learning effective and useful if the course and teacher used assignments and learning opportunities that had real-world examples involved in it. In particular, there were two students who were enrolled in an AP Computer Science class that was being

taught through an enriched virtual model method. These two students had different perceptions than others. The two talked about why blended learning worked with their learning style through the ability of learning coding that they felt would help them in the future.

The younger students felt that blended learning was helpful through the organizational resources that came with the blended learning platforms because of the convenience that came from it. They enjoyed the fact that the platforms were like filing cabinets for their work. The younger students were also those who complained that the assignments were on a lower-level of Bloom's Taxonomy and much like busy work (Bloom, 1956). This was then traced back to the teacher and the teacher's lack of experience with the programs.

The perceived usefulness of blended learning depended on the lesson that was being taught. For example, Student C and D discussed how useful lessons were when they were able to apply past knowledge and create something that they can apply the knowledge to. Student E discussed that his blended learning lessons were more meaningful to him if he could use programs that he could use in the future. He mentioned that his calling was in the ministry and being able to master a slideshow program would help him. However other students, like Student B, discussed most assignments were "busy work" because the lessons were recall assessments and that did not work for him.

The perceived usefulness of the platforms was mostly positive with the participants of the study. If the lessons being taught were relevant and rigorous, students

feel good about what they were learning. The younger students did not all feel that they were being taught relevant lessons; however, as a whole, the students' perceptions were mostly positive.

Research Subquestion 3: What is the Perceived Ease of Use of Gifted Students on Free and Reduced Lunch Regarding the Platforms That are Involved in Blended Learning?

Overwhelmingly, the participants felt an ease of use as they used the blended learning platforms. The times that the students felt there was an issue with the platforms were the times when platforms were updated, and the updates were not up to par; this made the platform confusing. Ease of use was also influence when a device or program was "glitchy." However, all stated that with time, being a day to a week, the student could figure out the glitches.

The issues that were discussed in the interviews about the ease of use were the reflections of students who did not have the technology backgrounds with devices in their lives. Student K, a senior, discussed that she felt overwhelmed with the platforms when she began using it in high school. She claimed that it took her about a year to become comfortable with it. During the year of getting accustomed to blended learning and educational technology, she struggled with assignments and using the technology for education in general.

Student E, a freshman, told the same story of having to adjust to the technology use, as he transferred from a rural area with extreme poverty in a neighboring state and they did not use technology in the same way. When he moved into the school district

midway through his eighth-grade year, he felt lost. He had no way of connecting and practicing the content at home since he had no Internet at the time. However, with perseverance and practice, he was able to navigate through the platforms.

Other than these two stories, most participants felt that using technology in education and through the blended learning platforms were very easy to use. Most platforms were called "kid friendly" (Student D) and "easy" (Student C). The platforms update problems were non-issues to most participants, who claimed it was just an annoyance. With the students' past in using technology through school or in personal life, the students knew how to operate and navigate through the platforms.

The perceptions of the perceived ease of use of the platforms were overall positive. Despite the annoyance of technology problems beyond their control, the students discussed the easy nature of the platforms. As Student A said, being able to navigate around the platforms "took about a week." With this degree of ease, the perceptions of ease of use of the platforms were positive.

Research Subquestion 4: What are the Behavioral Intentions of Gifted Students on Free and Reduced Lunch Regarding Their Use of Blended Learning?

Most students have multiple technology devices despite their economic status. Therefore, there is no such thing as a lack of technology for the students. All of the students in this study had smartphones and computers.

Regarding the sub-question involving intentions to use, as long as the students saw relevance in the assignments or relevance in the topics they were learning, they felt as if it was something that they would continue using. Student D stated,

> A lot of my stuff, especially in computer science, is all about application, because that is all computer science is all about. You aren't just memorizing vocabulary words. You are learning how to code and how to put stuff together and make apps and webpages… It's real application that you can use for other projects and stuff.

Student E stated the following about using technology,

> I'm taking a video class now, and a lot of it has to do with editing which is on the computer. And I personally feel called into the ministry. I feel that is going to be a big part of my life someday. I feel as if things like video editing will come in handy for me. Things like how to write on Google Docs will come in handy for me. I don't know how big of an advantage that is, I don't know what the plan is, I don't know how much that will be used, but I do know that it has been rather nice using that.

Student G had a different set of circumstances than the other students. She decided after her tenth-grade year to accelerate her graduation plan and take more courses online to help her family with their finances. She said this about working ahead at her own pace, "in the beginning, I was two weeks ahead. I did a bunch of [lessons] and was done because I wanted to be done. So, it is kinda up to the person, up to what you do best. For work with me, it is better to sit down and do as much as possible, because if I have to work, [my lessons] will be fine."

Student F had a different set of experiences as he had been blocked from using technology in learning because of a "violation of academic honesty." For him, this allowed him to realize that technology is needed in his learning. He said,

> I haven't been allowed to use technology at all for my first semester, and it's been difficult in many ways. I spend much more time working on an assignment that should only take me 10 minutes. I constantly am flipping between pages in a textbook, while with a few keystrokes my classmates have all the information they need. Our assignments are based off of finding information online, so just using a textbook is pretty terrible. It's this contrast that allows me to see how helpful technology is.

Student F shared that now, more than before, technology was needed for him to be successful.

Regarding the research sub-question focused on gifted students on free and reduced lunch behavioral intentions to use blended learning, it was revealed that they felt that if the lessons were relevant and convenient, they would be more inclined to use blended learning. All of the participants were positive their experiences with blended learning, even in spite of the problems that they ran into.

Research Question: What are the Perceptions of Gifted Students on Free and Reduced Lunch Regarding Being Taught Using the Blended Learning Pedagogy?

Perceptions of blended learning from gifted students that were on free and reduced lunch were greatly positive. However, this positive perception related back to how the teacher used blended learning. The participants felt the learning had to be

relevant to the learning task. From what was explained by the students, some teachers assigned an assessment on a blended learning platform and it was considered blended learning. Students were used to finding resources to help in their learning if they did not quite understand a topic. From the comments, the students who were independent learners were excellent in teaching themselves, be that through resources or practicing until they got the correct information.

The participants were positive of the convenience of blended learning. Students often talked about the convenience of the platforms. Several students talked in detail about not having to keep up with the papers and books that were often used in face-to-face learning. Student C said, "All of that paper, having to do all of the work that we do in AP classes all on paper…that is a lot of paper to keep up with. One, you wouldn't want to keep up with it, and the other is you don't want to study it because it is a big pile of paper. At least [blended learning] comes with a virtual filing cabinet." Student H shared a different viewpoint. She came into the interview with a rolling backpack stuffed full of papers, folders, and small objects. She mentioned about being given worksheets in class, "I think it would make it better to have a worksheet [instead of a pdf] because you wouldn't have to go online or get on the app, then go back off the app to use the calculator, then back to the pdf. It is very tedious. Having a printout is so simple." She also said, "I like to have things to carry around. In sixth or seventh grade, I would wear a fanny pack to school. I would carry it around with index cards, pencils, crayons, color pencils, highlighters for my own personal use and for school. I just like having things on me at all times and knowing where it is. I am very paranoid." This follows the

stereotype of gifted and creative students being “sloppy and disorganized with details and unimportant matters” (Hebert & Smith, 2018). Student C was an older student, yet realized this can be not only a learning tool, but an organizational resource. But Student H was younger and still wanting to embrace the sloppy, disorganized manner. In her own eyes, she was organized because she knew where everything was on her person.

During the study, there became an evident code of behavior and how easy it was for secondary students to cheat on assignments for blended learning assignments, as well as assignments that were meant to be cooperative learning. Students acknowledged the importance of cooperative learning and working with others while using technology; however, the students were leery of the assignments as a whole because the work in most groups is not completed fairly. Students claimed that either one student did all of the work, or some members of the group did not do any work at all. The students mentioned that with the advancements of Google Docs, students shared documents often, and it was easy to cut and paste assessment answers from others because so many documents were shared. Student F discussed cheating as an issue claiming blended learning has allowed it to become easier for students to cheat. He said,

> Cheating is so much easier. If done properly, it can be completely undetectable to a teacher. Why spend 6 hours doing an assignment or lesson when you can find it online or pay a classmate $20 to do it with no risk to yourself. All it takes is one person to accidentally press “save my password for this website,” and suddenly 10 students have their google classroom passwords saved on the computer

without their knowledge [thus allowing students to have access to other students Google drive and their past work].

Regarding the research question, the participants were overall positive about the perceptions of blended learning. Despite the issues of aging technology, connectivity problems, or other issues that came up during the coding process, the positives outweighed the negatives. The gifted students who lived in poverty had positive perceptions of blended learning.

Evidence of Trustworthiness

To assure that studies are directed in a manner that is ethical and trustworthy, qualitative researchers must assess trustworthiness to assure a study's rigor (Ravitch & Carl, 2016). I conducted this study in several ways to assure trustworthiness. The following section will explain the evidence of trustworthiness through credibility, transferability, dependability, and confirmability.

Credibility

To establish credibility, the researcher needs to seek complexity in the research design by keeping the methods and findings inseparable (Ravitch & Carl, 2016). To maintain the credibility of this study, I used member checking, peer debriefing, and keeping a reflexive journal. Since the participants used were from the school system where I was employed, I felt it important that these credibility facets were done strictly to keep all sense of bias out of the study.

According to Burkholder, Cox, and Crawford (2016), reflexive journaling allows for a continuous narrative of the study's rationale, assumptions, and relationships with the

participants, and can reveal the researcher's theorizations with the study and the participants. Before the study began, I felt that the reflexive journal might be one of the most important credibility components. In the process of reflexive journaling, I learned to write notes about the interview. For this, writing the ideas down made it to where I was more cognizant of the research process which allowed me to remain with no preconceived notions. I did not find it difficult to keep out assumptions because of this.

Peer debriefing allows for discussions with a colleague not involved in the study about the study's progress, data analysis, and tentative findings (Burkholder et al., 2016; Ravitch & Carl, 2016). This occurred with several discussions with colleagues in which they gave their honest input about the study, advice that could help, and words of encouragement through the process. Through the peer debrief, I found that people who have been through the doctoral process before have a tendency to remind you of aspects of the process the researcher needs to remember. In this instance, the peers helped me continue my focus on the conceptual framework.

Carl and Ravitch (2018) stated that member checks establish the credibility of a study. Through the member checking process, the researcher will converse with the participant to determine the accuracy of transcripts before engaging in the analysis process (Carl & Ravitch, 2018). During the study and the member checking, most participants added minor changes to the transcripts; some had no changes. However, one student, Student F, elaborated on his transcripts, in particular on a section that dealt with cheating and behavior with technology.

Transferability

Transferability shows the applicability of the research process (Burkholder, Cox & Crawford, 2016; Korstjens & Moser, 2017; Ravitch & Carl, 2016). Through the applicability, the researcher must provide thick description of the study's participants and the process to allow the reader of study to decide if the study's findings are transferable to their own settings (Korstjens & Moser, 2017; Merriam & Grenier, 2019; Ravitch & Carl, 2016). For the study, I used thick description of the setting and the participants by giving a detailed description of both for the readers and for the possible researchers who wish to extend the study to determine if the findings can be transferred. I also showed transferability through maximum variation in the participants of the high school students who were labeled gifted and were on free and reduced lunch.

Dependability

Dependability shows consistency in a study (Burkholder et al., 2016; Korstjens & Moser, 2017; Ravitch & Carl, 2016). An audit trail is often used to ensure dependability and confirmability (Burkholder et al., 2016; Korstjen & Moser, 2017). The dependability of the study was shown through the audit trail that was kept. I took session notes during the interviews. The transcripts were checked by the participant to ensure member checking. Though most students had little to no changes with the transcripts during member checking, student F added several paragraphs for his transcripts. In particular, he added parts that were about behavior with technology and the easy ways for students to cheat through using blended learning. Also, I kept coding notes while coding and using the MaxQDA program. Intracoder reliability was present as I coded the data

throughout the process, which can be seen through the code book (Figure N). Through this documentation, the dependable aspect of consistency is shown.

Confirmability

A researcher can prove the neutrality of a study through confirmability (Korstjen & Moser, 2017; Ravitch & Carl, 2016). To have a qualitative study, a researcher cannot have objectivity within their research; therefore, the research must remain neutral to obtain a valid study (Ravitch & Carl, 2016). In Chapter 3, I felt that through the reflexibility journal that I could find this neutrality. However, to find this neutrality, the confirmability of the study came from the peer debriefing and the reflexibility journal that occurred throughout the study. The group of peers, other peers that had obtained doctoral degrees, allowed me to debrief with them, and they helped me to remain neutral in all aspects of the study while it was going on. Through the peer debrief, I was able to stay grounded and focused on the conceptual framework. Through the reflexibility journal, I could minimize bias and made sure I remained impartial within the study.

Summary

This chapter explored answers to the research question for this study. The overall finding was that the perceptions of blended learning from gifted students in poverty were positive, as long as the teacher could find a relevant link for the student's lives. Also, through the study, the researcher found that the students did not have full use of technology in education until entering high school, thus learning technology on their own. All students had devices to use at home, and regardless of which platform, students

found the blended learning easy to use with minor exceptions. The researcher also found that cheating was an issue when it came to blended learning lessons.

In the final chapter of this study, I will discuss the interpretations of the findings, as well as the limitations of the study. Also, the recommendations for the future and implications of the study will be stated.

Chapter 5: Discussion, Conclusions, and Recommendations

Because gifted students in poverty could not be proficient in meeting technology standards as a result of weaker technology backgrounds, the purpose of this study was to explore the students' perceptions of blended learning among gifted students in poverty (Gilbert, 2015; Milner, Cunningham, Murray, & Alvarez, 2017). This qualitative exploratory case study explored gifted students in poverty perceptions of blended learning as it related to students in poverty not being accustomed to using educational technology for instruction in the same way as students who are not in poverty. Through this study, the researcher found that the perceptions were overall positive, as long as the teacher could tie the lessons to something relevant within the content.

Interpretation of the Findings

There is a lack of information on the topic of this study. With blended learning, there is a lack of information on secondary education, not to mention gifted education. With regards to gifted students of poverty and technology, there is a lack of research as well. That is why the study is pertinent for all aspects of the study: blended learning, gifted education, and students of poverty in secondary education. The study will allow some research data to be published for these aspects. While most studies have been conducted on blended learning with gifted students, blended learning with low income students, none have been conducted on the intersection of all of these populations.

The research question, subresearch questions, and data were grounded in the TAM. Therefore, when the results of the study were analyzed, the TAM was the guiding influence. When exploring the perceptions of blended learning through the eyes of gifted

students in poverty, four TAM constructs were used: attitudes toward technology, perceived ease of use, perceived usefulness, and behavioral intentions (Davis, Bagozzi, & Warshaw, 1989; Marangunić & Granić, 2015; Mortenson & Vigden, 2016).

Overall, the participants showed they had a positive attitude towards educational technology and blended learning. The participants are inundated with useful technology in their lives; therefore, using technology is part of their daily routine. With technology, especially if used in an engaging manner, the participants of the study had a positive attitude toward educational technology. The positive attitude came from the positive thoughts of being able to move at their own pace and work when they wished. The positive attitudes also came from the organizational attributes of the platforms. Some participants preferred having all supplemental information for assignments all at one place, and not having to deal with hard copy handouts (Student A, Student C, Student F, Student G, Student H, Student K). The convenience assisted the participants with using technology during the lessons.

Nine of the 10 participants shared positive perceptions about the perceived ease of use of blended learning platforms. With their previous experiences with technology, the perceived ease of use of the platforms were not a problem for the students, except for situations that were brought about by unfamiliar updates. Even when the technology was updated, there was no major issue. Thus, the participants overall felt positive about the ease of use of the platforms. When the participants were up-to-date on the technology and felt that the technology and blended learning platforms were easy to use, they did not

see problems. The only exception was the occasional glitches that occurred (Student H, Student D, Student K, Student F, Student A, Student G).

The participants also shared their positive perceptions about usefulness of blended learning, especially if the lessons were relevant. Participants explained that when the lessons were not relevant, they felt the blended learning experience was not useful. Some participants felt that some teachers were not adept at making engaging blended learning lessons and as a result, the students questioned the usefulness of the learning. Overall, the students felt the blended learning and the educational technology was useful.

The participants also felt positive about their intentions on continuing to use blended learning or technology for education, like computers, tablets, smartphones, or any application that can assist in the students' learning. Students were open to using blended learning again and felt positive about their past experiences with it. Given the data that went with the behavioral intentions subresearch question, I can interpret that students enjoyed using technology in general and that gave them a positive feel for using technology for their educational work.

This finding contradicts Mandinach and Miskell (2018), who stated that students of poverty are at a major disadvantage in blended learning because of their inadequate skills in technology. These four characteristics of TAM show that the student's perceptions of blended learning are positive. The study participants shared that they have adequate skills in technology usage of all kinds. They may have not had the experiences with technology as other students; however, they were able to sufficiently use the technological devices for blended learning. Though some had an acclimation period with

the technology, it did not hamper their ability to navigate the blended learning programs or platforms. Student J made the statement that it can "really help people get use (sic) to the platforms who were not used (sic) to using technology in the classroom or using technology at all," especially with the simplistic platforms that they found to be user friendly.

Gifted students in poverty need to be engaged. Though the stereotypical approach with school systems in poverty areas is to differentiate with gifted students by giving them technology, this approach works only when used properly (Azano, Callahan, Brodersen, & Caughey, 2017, Garthwait, 2014; Van Tassel-Baska & Hubbard, 2016). The participants showed that preferred technology use was "goofing off" (Student A), and if students are given unengaging blended learning lessons, teachers should expect the same.

Limitations of the Study

The exploratory nature of this case study examined and defined the research objective (Yin, 2017). This study was meant to fill a gap in research on low-income gifted students and their perceptions of blended learning (Yin, 2017). This will hopefully assist new studies that will have to use limited prior research on the topic. However, some limitations to trustworthiness that existed within the study may have affected the study. The data from the study came from participants' perceptions and experiences that they provided in the interviews; therefore, the student's behaviors were not studied (Yin, 2017).

The specificity of the participants of the study caused problems in the interview portion of the data collection. Since Freshmen and Sophomores that were enrolled in the school only have one AP course that they can take per year, I broadened the discussion with the students to include honors courses in the student's core contents of math, English, science. The school did not offer honors courses in social studies during the freshman and sophomore year because they offer AP Human Geography their freshman year, and AP World History their freshman year. Because of the limitation of the small demographic, I was limited to using only one school instead of three. However, I did not feel this would be the case in other geographic areas. Also, I worked in the district of the school that I used for the study. However, I did not use students that I had taught or have known from the past to assure the study was not biased in any way. These were the only limitations that arose from the execution of the study.

Recommendations

The following recommendations for further research was developed from analysis of current and seminal literature and the findings from my study, which extended the current research:

1. Use a quantitative or mixed method study to indicate whether the students improved in their knowledge or assessment scores through blended learning
2. Conduct a similar study in a high poverty urban area to allow other researchers to gain more data on the demographic.

Implications

This study addressed social change by exploring information about an underserved demographic and their perceptions of the use of blended learning. This study could have an influence of positive social change by helping teachers of gifted students in poverty by providing insights that could assist in them in designing instruction that takes advance of the affordances of blended learning and technology use. The results of the study could provide families of gifted students in poverty with more information by making them aware that as their children use technology for their academic classes they are acquiring skills that can help them be successful in the education journeys and future careers. With the findings of this study, technology administrators within school districts who serve gifted students in poverty can become aware of the importance of having technology throughout the school, to make sure their students are successful in their academic classes.

The research on blended learning shows a lack of study of on blended learning in secondary schools; most has been conducted at the elementary and adult education levels (Bowyer & Chambers, 2017). Harrell and Wendt (2019) state, "The growth of online learning has outpaced the production of reliable and valid research; thus, research on the construction, delivery, and examination of K-12 blended learning and online learning is a dire need" (p. 259). My study has provided research on the secondary level, not just gifted students or gifted students who live in low socioeconomic backgrounds.

By using the technology acceptance model as the theoretical framework of this study, the research will assist in answering if educational technology, especially the

platforms of blended learning, can be an accepted form of learning for the low-income gifted students. Using this framework, this research showed that blended learning could be successful for those students of this demographic group; and despite students in poverty possibly not having the same experiences with educational technology as students who are not in poverty, the gifted students in poverty have positive experiences with their attitudes, the perceived usefulness, the perceived ease of use, and the behavioral intentions toward blended learning. Therefore, the implications regarding the theoretical framework indicate that blended learning could be used successfully for this demographic's educational learning.

Conclusion

I chose this qualitative exploratory case study to explore a demographic that I have been working closely with for 18 years, gifted students who are in poverty. It has been through that time that I have seen the full gamut of pedagogies from rote learning to full technology implementation in classrooms. The research showed that there is a lack of information on blended learning in secondary schools and low-income students, as well as gifted students, using blended learning (Bingham, 2017; Bowyer & Chambers, 2017; Sparks, 2015). However, with the perceptions of the blended learning pedagogy, I was unsure of what I would find. However, through this case study, one can see that students are accustomed to technology, even if the technology is dated. The perceptions of the participants were overwhelmingly positive when it comes to blended learning. The students liked the engaged learning and felt positive about the process.

Despite the positive findings, relevant lessons are necessary. Some students expressed concerns about teachers who did not use relevant lessons for the blended learning and its assignments, and thus the students felt that the pedagogy was a waste of time. Professional development should be provided for teachers on blended learning and how to create proper lessons, units, or courses to assist their students. Teachers who are using blended learning for lower-order learning from Bloom's Taxonomy are missing the capability of gifted students (Bloom, 1956). Gifted students, just like any other student, want to learn. They also want to be challenged. As Garthwait (2014) stated, some school systems used technology as the gifted student's differentiation. But we need to remember that the differentiation needs to be relevant within the challenge, then put onto a blended learning platform. Gifted students of poverty also have a challenge in finding lessons that are relevant to their lives. Therefore, teachers should be thinking of the students when making the assignments in blended learning lessons, units, or courses to maximize the gifted students in poverty's learning.

To conclude, readers should think about Student F whose honesty allowed us to get an interesting insight of gifted students in poverty.

> I've always struggled with paying attention in a regular classroom environment because, for better or worse, I love to talk to people. I have trouble focusing on a lesson because I end up getting into a conversation with the person next to me, or making jokes to someone across the classroom. If I wanted to be able to do well in school, I would have to learn how to teach myself the subject material (Student F).

The amount of time that he spent on homework depended on "how important the assignment/test is to me, and how much effort I have to put into it" (Student F). But most days, that was none. He had not been able to use technology during his senior year because of a "violation of academic honesty." Yet he found blended learning and technology "amazing."

> Technology is amazing for essays or other research assignments because of the availability of information and the ease of finding it, whether credible or not is another issue…Let's say you are writing an essay and you want some help with a certain paragraph or area. You can just add a classmate to the essay, chat with them on the built in chat feature on Google Docs, and they can help you out. I believe this helps so many students due to the difference between peer to peer learning versus student to teacher. There will always be a sort of barrier between a student and a teacher, but that isn't really there with your fellow students (Student F).

I mention these characteristics of Student F because he was the stereotype of a gifted student of poverty. He was self-taught, bright, needing attention, flawed, yet motivated. This was a student who mentioned that learning in teacher-centered environments was not conducive to him because of his need for attention. However, using technology allowed him to prosper. His ability to learn from his mistakes gave me a rare perspective from the student when he talked of being suspended from using technology as a punishment that hampered his learning style, and he was forced to go back into a teacher-centered learning mode which was not conducive to his learning style.

But he was successful when learning in a blended fashion. He strived with collaboration. He strived with the information being at his fingertips. He strived with the pace. It was for a student like Student F that this study was important. Student F does not have the same opportunities as others educationally. But through the blended format, it leveled the playing field for Student F. Being able to see the underserved students of this demographic being able to get to that level playing field made this study worthwhile.

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Appendix A: Sample Student Interview Questions

What are the perceptions when gifted students in poverty are taught using blended learning?

When you are in your AP classes, explain how the classes incorporate technology? What types of blended learning things do they do?
Explain some of your BL assignments that you have.
When you are assigned a BL assignment or unit, what are the first few things that pop into your head? What are your feelings about them?
How do you believe that your experiences with blended learning technologies (like iPads, smartphones, computers, etc.) and platforms (like Google Classroom or any other platform) have impacted your learning in AP courses?
What factors do you believe influence your acceptance of technology in AP courses?
What factors do you believe influence your learning of AP courses when you use technology?

Attitudes

Do you find the blended learning helpful to you? Explain.
What do you normally use technology for in your regular life?
Describe your recollection of experiences with technology socially, academically, and personally?
What do you enjoy most about being part of the BL classes/lessons?
What did you enjoy least about being part of the BL classes/lessons?

Perceived Usefulness

Do you find BL useful for you?
Do you find learning through technology useful?
Why do you believe that these technologies are or are not useful?

Perceived Ease of Use

Did you find problems with the BL platforms? If you do, can you elaborate.
What would make it easier?
Do the teachers know how to adequately work the platform?
Do you believe these technologies are or not easy to use? Explain.
Do you have any problems navigating through your BL platform? Explain.

Behavioral Intentions

Tell me about your Internet connection at home. Is it reliable?
What kinds of technology devices do you have at home?
What is the best way for you to learn?
How much time do you spend on homework per day?
Do your parents help you in your lessons? If so, how?

Appendix B: Parent Consent Form for Research

PARENT CONSENT FORM FOR RESEARCH

Your child is invited to take part in a research study of technology-based education on gifted students who are enrolled in the free and reduced lunch program. Your (school district's name here) superintendent has been contacted and has agreed to allow students to participate in this research study. Your child has been identified as a student currently enrolled in the free and reduced lunch program, labeled gifted, and are enrolled in at least one Advanced Placement class that uses Blended Learning or technology-based learning as a primary teaching source in the classroom. I received your students name from the guidance department at _____ school since your child fits these three criteria.

The researcher is inviting gifted students who are enrolled in the free and reduced lunch program that have computer-based classes to be in the study. This form is part of a process called "informed consent" to allow you to understand this study before deciding whether to allow your child to take part.

This study is being conducted by a researcher named Darren Crutcher, who is a doctoral student at Walden University. You might already know the researcher as a teacher, but this study is separate from that role.

Background Information:
The purpose of this study is to explore gifted students on free and reduced lunch perceptions of blended learning.

Procedures:
If you agree to allow your child to be in this study, your child will be asked to:

- Participate in a one on one interview which will take between 30-45 minutes and will take place after school in a room provided by the school.
- Audio recordings will be made of all interviews in order to help ensure proper interview transcription. After the interview is transcripted (ususally within a week), the student will be asked to look back over the transcripts of the interview to assure what they said was correct. This will be done over email. Therefore, the whole time involvement for the study will be from 45 minutes to 1 hour.
- You will be sent a summary of results when the study is completed.

Here are some sample questions:

- When you are in your AP classes, explain how they use technology?
- What do you normally use technology for in your regular life?
- Do you find learning through technology useful?
- Do you believe school technologies platforms are or not easy to use? Explain.
- What is the best way for you to learn?

Voluntary Nature of the Study:
This study is voluntary. You are free to accept or turn down the invitation and, of course, your child's decision is also an important factor. After obtaining parent consent, the researcher will explain the study and let each child decide if they wish to volunteer. No one at your school will treat you or your child differently if you or your child decides to not be in the study. If you decide to consent now, you or your child can still change your minds later. Your child can stop at any time.

Risks and Benefits of Being in the Study:
Being in this type of study involves some risk of the minor discomforts that your child might encounter in daily life, such as how some students could get tired or stressed when being asked about their study habits by their guardians. Being in this study would not pose risk to your child's safety or wellbeing. But we are hoping this project might help others by learning about technology-based learning and gifted students.

Payment:
Your student will be given a $20 gift card as a thank you for their time and assistance in the study that will be given after the interview and review of the transcripts.

Privacy:
The identity of your child will be kept confidential. The interview will be one on one, researcher and the participant only. This will assure the data will be kept private. Reports coming out of this study will not share the identities of individual participants or their families. Details that might identify participants, such as the location of the study, also will not be shared. The researcher will not use your child's personal information for any purpose outside of this research project. Data will be kept secure in a password protected program. The data will be kept for a period of at least 5 years, as required by the university.

The only time the researcher would need to share your child's name or information would be if the researcher learns about possible harm to your child or someone else.

Contacts and Questions:
You may ask any questions you have now. Or if you have questions later, you may contact the researcher via email at darren.crutcher@waldenu.edu. If you want to talk privately about your rights as a participant, you can call the Research Participant Advocate at my university at 612-312-1210. Walden University's approval number for this study is **12-03-18-0660532** and it expires on **December 2nd, 2019**.

The researcher will give you a copy of this form to keep for your own records.

Obtaining Your Consent

If you feel you understand the study well enough to make a decision about it, please indicate your consent by signing below. Please complete the below portion and return it in the stamped envelope that is enclosed.

Printed Name of Parent	_____
Printed Name of Child	_____
Date of consent	_____
Parent's Signature	_____
Researcher's Signature	_____

This has been approved by the Institutional Review Board of WALDEN UNIVERSITY as acceptable documentation of the informed consent process and is valid for one year after the stamped date.

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Appendix C: Consent Form for Research

Consent Form

You are invited to take part in a research study about technology-based education. The researcher is inviting gifted students who are on free and reduced lunch who are enrolled in technology based classes to be be in the study. Your (school district's name here) superintendent has been contacted and has agreed to allow students to participate in this research study. You have been identified as a student currently enrolled in the free and reduced lunch program, labeled gifted, and are enrolled in at least one Advanced Placement class that uses Blended Learning or technology-based learning as a primary teaching source in the classroom. I obtained your name and contact information from the school's guidance department. This form is part of a process called "informed consent" to allow you to understand this study before deciding whether to take part.

This study is being conducted by a researcher named Darren Crutcher, who is a doctoral student at Walden University. You might already know the researcher as a teacher, but this study is separate from that role.

Background Information:
The purpose of this study is to explore gifted students on free and reduced lunch perceptions of blended learning.

Procedures:
If you agree to be in this study, you will be asked to:

- Participate in a one on one interview will take between 30-45 minutes and will take place after school in a room provided by the school.
- Audio recordings will be made of all interviews in order to help ensure proper interview transcription. After the interview is transcripted (usually within a week), the student will be asked to look back over the transcripts of the interview to assure what you said was correct. This will be done over email. Therefore, the whole time involvement for the study will be from 45 minutes to 1 hour.
- You will be sent a summary of results when the study is completed.

Here are some sample questions:
When you are in your AP classes, explain how they use technology?
What do you normally use technology for in your regular life?
Do you find learning through technology useful?
Do you believe school technologies platforms are or not easy to use? Explain.
What is the best way for you to learn?

Voluntary Nature of the Study:
This study is voluntary. You are free to accept or turn down the invitation. No one at your school will treat you differently if you decide not to be in the study. If you decide to be in the study now, you can still change your mind later. You may stop at any time.

Risks and Benefits of Being in the Study:
Being in this type of study involves some risk of the minor discomforts that can be encountered in daily life, such as the study could possibly make you tired or stressed, just like answering questions about your study habits for your parents might be. Being in this study would not pose risk to your safety or wellbeing. But we are hoping this project might help others by learning about technology-based learning and gifted students

Payment:
You will be given a $20 gift card as a thank you for your time and assistance in the study that will be given after your interview and review of the transcripts.

Privacy:
Reports coming out of this study will not share the identities of individual participants. Details that might identify participants, such as the location of the study, also will not be shared. The researcher will not use your personal information for any purpose outside of this research project. Data will be kept secure by a password protected program. Data will be kept for a period of at least 5 years, as required by the university.

Contacts and Questions:
You may ask any questions you have now. Or if you have questions later, you may contact the researcher via email at darren.crutcher@waldenu.edu. If you want to talk privately about your rights as a participant, you can call the Research Participant Advocate at my university at 612-312-1210. Walden University's approval number for this study is **12-03-18-0660532 and it expires on December 2nd, 2019.**

The researcher will give you a copy of this form to keep.

Obtaining Your Consent

If you feel you understand the study well enough to make a decision about it, please indicate your consent by signing below. Please complete the below portion and return it in the stamped addressed envelope that is enclosed.

Printed Name of Participant _____

Date of consent _____

Participant's Signature _____

Researcher's Signature _____

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Appendix D: Assent Form for Research

ASSENT FORM FOR RESEARCH

Hello, my name is Darren Crutcher and I am doing a doctoral study to learn about technology-based education on gifted students who are in the free and reduced lunch program. The purpose of this qualitative research study is to explore gifted students on free and reduced lunch perceptions of blended learning. The (school district's name here) superintendent has been contacted and has agreed to allow students to participate in this research study. I am inviting you to join my project. I want you to learn about the project before you decide if you want to be in it. You have been identified as a student currently enrolled in the free and reduced lunch program, labeled gifted, and are enrolled in at least one Advanced Placement class that uses Blended Learning or technology-based learning as a primary teaching source in the classroom. I received your name from the guidance department at _____ school since you fit these three criteria.

WHO I AM:
I am a student at Walden University. I am working on my doctoral degree. You might already know me as a teacher, but this study is separate from that role.

ABOUT THE PROJECT:
If you agree to be in this project, you will be asked to:

- Participate in a one on one interview which will take between 30-45 minutes and will take place after school in a room provided by the school.
- After the interview is transcripted (usually within a week), you will need to look back over the transcripts of the interview to assure what you said was correct. You will do this via email. The whole time involvement for the study will be from 45 minutes to 1 hour.
- Your participation in the study is voluntary.
- You may decline to participate or withdraw from participation at any time without consequences.
- Your identity will be kept confidential.
- Audio recordings will be made of all interviews in order to help ensure proper interview transcription.
- You will be sent a summary of results when the study is completed.

Here are some sample questions:

- When you are in your AP classes, explain how they use technology?
- What do you normally use technology for in your regular life?
- Do you find learning through technology useful?
- Do you believe school technologies platforms are or not easy to use? Explain.
- What is the best way for you to learn?

IT'S YOUR CHOICE:
You don't have to be in this project if you don't want to. If you decide now that you want to join the project, you can still change your mind later. If you want to stop, you can.

Being in this study could possibly make you tired or stressed, just like answering questions about your study habits for your parents might be. But we are hoping this project might help others by learning about technology-based learning and gifted students.

You will be given a $20 gift card as a thank you for your time and assistance in the study that will be given after your interview and review of the transcripts.

PRIVACY:
The interview will be one on one, researcher and the participant only. Everything you tell me during this project will be kept private. That means that no one else will know your name or what answers you gave. The only time I have to tell someone is if I learn about something that could hurt you or someone else.

ASKING QUESTIONS:
You can ask me any questions you want now. If you think of a question later, you or your parents can reach me at darren.crutcher@waldenu.edu. If. If you or your parents would like to ask my university a question, you can call 612-312-1210. The approval number for this study is **12-03-18-0660532** and it expires on **December 2nd, 2019**.

I will give you a copy of this form to keep for your own records.

If you want to join the project, please complete the below portion and return it in the stamped, addressed envelope that is enclosed.

Name _____

Signature _____

Date _____

Researcher Signature _____

2018.12.03 16:06:10 -06'00'

Appendix E: School Superintendent Consent

Dear (administrator/school superintendent name):

My name is Darren Crutcher and I am a doctoral student at Walden University. I am working on dissertation research in which I hope that you will consent to participate.

The purpose of this qualitative research study is to explore gifted students on free and reduced lunch perceptions of blended learning. This study will provide information that can be used by educators and technology directors to help students who are labeled gifted and are considered low-socioeconomically, become successful in the 21st-century classroom.

This study will observe the following guidelines to ensure participant confidentiality:

- Pseudonyms will be used in place of the name of your district and school
- Pseudonyms will be used in place of students names. If a student is randomly selected to be interviewed, permission will be required from the parent if the student is younger than 18 years of age. Student participation in an interview is entirely voluntary.
- No individual student achievement data will be requested. The data used in this study are qualitative data from the interviews.
- The only foreseeable risk is a small potential for a breach of confidentiality due to the audio taping of the interview.

The participants will be asked to take part in an interview that will take 30-45 minutes that will ask about their perceptions of blended learning in their classes. Audio recordings will be made of all telephone interviews in order to help ensure proper interview transcription. I will not identify any student by name in my study. Confidentiality will be maintained and all collected information that identifies individuals will be removed and replaced with a code. A list linking the code and any identifiable personal information will be kept separate from the research data in a password protected document.

All data will be stored electronically on a secure computer, with password protection. The audio-recordings also will be stored in a locked file, then transcribed and destroyed as soon as possible. That data will be kept stored away in a protected file for five years, then destroyed. Names will not be used in any report or publication resulting from this study.

Participation in this study is voluntary. Volunteers may refuse to answer any question or discontinue their involvement at any time without penalty. Parental approval will be sought for minors, and students 18 and over will be told on their consent forms that they must be 18 and over in order to participate.

Please review the enclosed Student Consent Forms below. These forms will be used for all participants who agree take part in this research study. If you will agree to allow students in your school district participate, please respond in an email stating your

approval. Please contact me darren.crutcher@waldenu.edu if you have any questions. I hope that you will consider participating in this important study that will provide valuable information for teachers, technology coordinators, and teachers that will help them to meet the needs of underprivileged students.

Sincerely,

Darren Crutcher
Doctoral Candidate
Walden University

Appendix F: High School Principal Consent

Dear (high school principal name):

My name is Darren Crutcher, and I am a doctoral student at Walden University. Your school district's superintendent has been contacted and has agreed to allow students to participate in a research study that I am conducting as a portion of the requirements for my degree. Your high school has been identified as a potential candidate for inclusion in this research study.

I am conducting a research study entitled *Exploring Perceptions of Blended Learning in Gifted Students in Poverty.* The purpose of this qualitative research study is to explore gifted students on free and reduced lunch perceptions of blended learning. This study will provide information that can be used by educators and technology directors to help students who are labeled gifted and are considered low-socioeconomically, become successful in the 21st-century classroom.

This study will observe the following guidelines to ensure participant confidentiality:

- Pseudonyms will be used in place of the name of your district and school
- Pseudonyms will be used in place of students names. If a student is randomly selected to be interviewed, permission will be required from the parent if the student is younger than 18 years of age. Student participation in an interview is entirely voluntary.
- No individual student achievement data will be requested. The data used in this study are qualitative data from the interviews.
- The only foreseeable risk is a small potential for a breach of confidentiality due to the audio taping of the interview.

The participants will be asked to take part in an interview that will take 30-45 minutes that will ask about their perceptions of blended learning in their classes. Audio recordings will be made of all telephone interviews in order to help ensure proper interview transcription. I will not identify any student by name in my study. Confidentiality will be maintained and all collected information that identifies individuals will be removed and replaced with a code. A list linking the code and any identifiable personal information will be kept separate from the research data in a password protected document.

All data will be stored electronically on a secure computer, with password protection. The audio-recordings also will be stored in a locked file, then transcribed and destroyed as soon as possible. That data will be kept stored away in a protected file for five years, then destroyed. Names will not be used in any report or publication resulting from this study.

Participation in this study is voluntary. Volunteers may refuse to answer any question or discontinue their involvement at any time without penalty. Parental approval

will be sought for minors, and students 18 and over will be told on their consent forms that they must be 18 and over in order to participate.

Please review the enclosed Student Consent Forms below. These forms will be used for all participants who agree take part in this research study. If you will agree to allow students in your school district participate, please respond in an email stating your approval. Please contact me at darren.crutcher@waldenu.edu if you have any questions. I hope that you will consider participating in this important study that will provide valuable information for teachers, technology coordinators, and teachers that will help them to meet the needs of underprivileged students.

Sincerely,

Darren Crutcher
Doctoral Candidate
Walden University

Appendix G: Confidentiality Agreement

CONFIDENTIALITY AGREEMENT

Title of Research Project: Exploring Perceptions of Blended Learning in Gifted Students in Poverty

Transcriber:

As a hired transcriber, I understand that I may have access to confidential information about study sites and participants. By signing this statement, I am indicating my understanding of my responsibilities to maintain confidentiality and agree to the following:

- I understand that names and any other identifying information about study sites and participants are completely confidential.
- I agree not to divulge, publish, or otherwise make known to unauthorized persons or to the public any information obtained in the course of this research project that could identify the persons who participated in the study.
- I understand that all information about study sites or participants obtained or accessed by me in the course of my work is confidential. I agree not to divulge or otherwise make known to unauthorized persons any of this information, unless specifically authorized to do so by approved protocol or by the local principal investigator acting in response to applicable law or court order, or public health or clinical need.
- I understand that I am not to read information about study sites or participants, or any other confidential documents, nor ask questions of study participants for my own personal information but only to the extent and for the purpose of performing my assigned duties on this research project.
- I agree to notify the researcher immediately should I become aware of an actual breach of confidentiality or a situation which could potentially result in a breach, whether this be on my part or on the part of another person.

_____	_____	_____
Signature	Date	Printed name
_____	_____	_____

Signature of researcher	Date	Printed name

Appendix H: IRB Approval

Notification of Approval to Conduct Research - Darren Crutcher

IRB <irb@mail.waldenu.edu>

Wed 12/26/2018 7:20 PM

To: Darren Crutcher <darren.crutcher@waldenu.edu>;

Cc: Gladys A. Arome <gladys.arome@mail.waldenu.edu>;

Dear Mr. Crutcher,

This email confirms receipt of the approval notifications for the community research partner and also serves as your notification that Walden University has approved BOTH your doctoral study proposal and your application to the Institutional Review Board. As such, you are approved by Walden University to conduct research.

Congratulations!

Bryn Saunders
Research Ethics Support Specialist, Office of Research Ethics and Compliance

Leilani Endicott
IRB Chair, Walden University

Information about the Walden University Institutional Review Board, including instructions for application, may be found at this link: http://academicguides.waldenu.edu/researchcenter/orec