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Students with Specific Learning Disabilities' Experiences with Instructional Materials and Programs in a Blended High School History Classroom: A Phenomenological Study of Accessibility

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Students with specific learning disabilities (SLD) who are participating in blended learning courses are a vulnerable population due to the rapid increase in use of online learning environments at the K-12 level. As more classroom teachers begin using a blended learning framework and serving as both the teacher and course designer, it is important to ask how students with SLD in the K-12 blended learning setting experience accessibility in the instructional materials teachers use. Using a phenomenological research design, interviews were conducted with participants identified as having SLD who were also enrolled in a high school, senior level blended history course. Participants provided the researcher with insights related to taking future blended courses, accessibility of course content, and accessibility of the learning management system. Generally, the participants were working to be successful, but found the instructional materials lacking in accessibility features. Information about the perceptions of participants with SLD can be used to help teachers, and course designers, create blended courses that are perceived by participants to be informative, educational, and accessible.

Keywords: *Online learning, blended learning, special education, participants with disabilities*

Blended learning was defined within the International Association for K-12 Online Education (2011) report, and first published by Horn and Staker (2011):

> Any time a participant learns at least in part at a supervised brick-and-mortar location away from home and at least in part through online delivery with some element of participant control over time, place, path, and/or pace; often used synonymously with Hybrid Learning. (p. 3)

Blended learning environments provide participants and teachers another delivery method for meeting the needs of participants with disabilities. In fact, blended learning has taken on many forms and delivery methods. The term *blended learning* has been applied to a range of technology integration and learner control strategies. For example, blended learning can occur as teachers use adaptive learning software programs in a traditional classroom for learning interventions (Awodeyi, & Tiamiyu, 2012; Smith & Suzuki, 2015; Yen & Lee, 2011). Blended learning can also take place in a school with a teacher/on-site mentor using in-person instruction, small groups, and computer modules containing content material (Alvarado-Alcantar, et al., 2018; Billingsley, et al., 2009; Bottge, et al., 2014; Fazal & Bryant, 2019; Hawkins-Lear & Grisham-Brown, 2018; Pace & Mellard, 2016; Stevens & Rice, 2016; Stevens & Rice, 2018). Regardless of the type of blending learning used, students use online instructional materials and programs as part of blended learning. Often, this use is independent, making it necessary for materials and programs to be accessible. When they are not, it is more difficult to create inclusive environments where students with disabilities have access to their peers and the curriculum their peers are experiencing (Basham, et al., 2015).

In the present study, blended learning occurred during a course taken in a brick-and-mortar school with an in-person teacher who was responsible for all grading and support. The class used a learning management system (LMS) at least 51% of the time to deliver content (Alvarado-Alcantar, et al., 2018). This description best matches the Lab Rotation model as described by The Clayton Christenson Institute (2019). This also means that the LMS must be navigable in order to access materials.

Previous research has shown that participants with disabilities are enrolling in various online learning environments at rates that are equal to their peers without disabilities (East, et al., 2016; Woods, et al., 2011). With online learning becoming a more popular modality of instruction for students who quality for special education services, it is critical that research about these students is conducted in order to ensure they are being afforded a free and appropriate education per the Individuals with Disabilities in Education Act (2004). Under IDEA, accessible materials support the provision of free appropriate public education (FAPE).

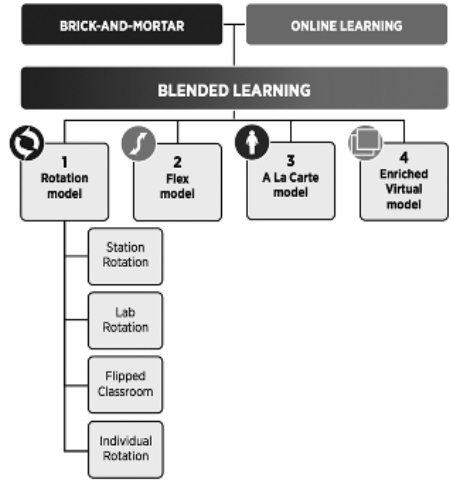

Figure 1. The relationship between online learning and blended education. This image was developed by the Blended Learning Universe and used with permission from the Christenson Institute (2019). The Christian Clayton Institute developed the Blended Learning Universe which is a resource for information about blended learning and can be found at https://www.blendedlearning.org/ .

There is a large and growing body of literature dedicated to research about online learning (Adelstein & Barbour, 2017; Greene & Hale, 2017). Some of this research includes emerging understandings about students disabilities who are learning in the online environment (See Basham, et al., 2015; Greer, et al., 2014; Rice & Dykman, 2018; Vasquez & Serianni, 2012). Unfortunately, most of the research has been non-specific in its description of students with disabilities (Greer, Rice, & Dykman, 2014). For students with cognitive disabilities such as specific learning disabilities, researchers need to know more about accessibility and usability of online instructional materials. Moreover, previous research about online instructional materials for K-12 learners suggests that while policies advocate for accessibility, there is some variation in how accessibility emerges in practice (Burdette, Greer, & Woods, 2013; Rice, 2018; Shaheen & Lazar, 2018). Other studies have contended that students like blended learning and even learn more, but these claims are often made without regard to the perspectives of students with disabilities (e.g., Avci, et al., 2015; Psycharis, et al., 2013; Yapici & Akbayin, 2012; Yildirim & Vural, 2016).

PURPOSE OF THE STUDY

The purpose of this phenomenological study was to garner the perspectives of participants with specific learning disabilities in a blended high school setting. This study was conducted in response to a pilot study conducted by the researcher, where participants with disabilities "reported an overall negative opinion about blended learning as an instructional delivery model" (Alvarado-Alcantar, et al., 2018, p. 189). As part of an on-going research project, this work presented an opportunity to learn more about my students and how they learn. The findings should support other teachers, course designers, and administrators in gaining insight into the particular needs of students with specific learning disabilities in blended learning settings. The guiding research question for this study is the following: how do students with SLD in a K-12 blended learning setting experience accessibility in the instructional materials used by teachers?

METHODOLOGY

The phenomenological approach "seeks to explore, describe, and analyze the meaning of individual lived experience" (Marshall & Rossman, 2011, p. 19). To understand the preferences of students with disabilities in the blended history classroom, the researcher engaged directly with students to understand what it was like to learn in this environment. The phenomenological lens was then overlaid with a social constructivist theory related to disability studies to better capture the nuances of working with students with disabilities (Dudely-Marling, 2016). This layered approach allowed me to gather both the individual and collective voices of participants.

Participants

This study received Institutional Review Board approval from the participating University and school district. The study was conducted within a larger school district in the Southwestern United States. The school selected for this study was a convenience sample (i.e. a local school, accessible to the research, with a willing administration) (Etikan, et al., 2016). The study took place in a high school with an enrollment of approximately 1,400 students. The whole school demographics included an enrollment of 738 (52.7%) males; 689 (49.2%) females; 14 (1%) African-American; 314 (22.4%) Caucasian; 1087 (77.6%) Latino; 704 (50.3%) economically disadvantaged; 1,204 (86%) general education; 196 (14%) special education; 125 (8.9%) gifted education; and 95 (6.7%) English language learners. In addition, the demographics about the participants' grade, gender, area of disability, progress in the course, academic artifacts, and whether this was their first online class were also collected.

The school principal and classroom teacher provided approval before participants were contacted. Once all permissions were granted, an in-class presentation was held in order to recruit participants for the study. The presentation contained information about the purpose of the study, the requirements, and the time commitment. The researcher provided participants with assent and consent forms, as appropriate for the age of the participants and written in accessible language. The assent and consent forms were read out loud to the participants and translation in Spanish was available. Participants were allowed time to consider their consent and to ask questions. The participants were informed that participation in the study would not impact their time in class, their work in the course, or have any impact on their grade. Participants were informed multiple times that they could stop at any time and that all information was confidential. No participant under the age of 18 chose to participate in the study.

Participants in this study were 1) in their senior year of high school, 2) enrolled in the same required history class (i.e. a special education course taught by one special education teacher which is coded as a distance course as defined by the school district and the state), and 3) qualified for special education services under the category of Specific Learning Disability (Table 1). The researcher was able to gain six volunteers for the study; five males and one female. All participants had taken at least one blended course prior to the study.

Table 1

Participant Demographic Information

Participant	Age	Sex	ELL	Area(s) of Disability
Matt	18 yrs 2 months	Male	Yes	Specific Learning Disability (SLD)- written language and reading Speech Language Impairment (SLI)- language
Jacob	19 yrs 8 months	Male	Yes	Specific Learning Disability (SLD)- reading comprehension and written expression
Dee	19 yrs 5 months	Male	No	Specific Learning Disability (SLD)- reading comprehension and math
Andrew	19 yrs 8 months	Male	Yes	Speech Language Impairment (SLI)- language Specific Learning Disability (SLD)- math
Harley	19yrs 0 Months	Female	No	Orthopedic Impairment
Luis	18 yrs 4 months	Male	No	Other Health Impaired- ADHD

Classroom Setting

The participants of the study were all from a single class period. The decision to only include a single class period eliminated variations in the delivery of instruction and class structure from the study. The classroom, described as self-pullout, was taught by a single special education instructor that had over 15 years of experience in working with both participants with disabilities and in teaching social studies courses. The instructor was in her second year of using a blended model for the class content and grade level, though she also had experience in using a blended model for a freshman level course in the prior school years.

The participants would receive in class instruction on Tuesdays and then be taken to a computer lab on Thursdays to complete the online assignments and assessments. Friday class sessions would vary in location between the computer lab and classroom depending on the progress of the participants. This instructional schedule can best be matched to the Lab Rotation Model described by The Clayton Christenson Institute (2019).

Data Collection

Participants were interviewed at their school in a large conference room located in the front office of the school in close proximity to the principal and counselor's offices in order to establish a sense of rapport. Each participant was interviewed one-on-one during a 30-minute session. After the interview transcripts were completed, a follow-up member checking session was held to verify the interview transcripts. The interview sessions were videotaped with audio recording as back-up.

The interview consisted of three main components: 1) introduction to establish rapport, 2) interview questions, and 3) concluding remarks. During the rapport building time, participants were asked questions about themselves, their day, and any interesting events at the school. The establishment of rapport was important for the researcher to be able to note body language and voice tone. Once the participant was ready to begin, a brief introduction was read and the interview questions were asked.

The participants in this study had some difficulty being interviewed for extended periods of time therefore, the interview component had two distinct sections. The first section focused on the three main prompting questions and the second section which provided the participant the opportunity to share their perspectives using examples from the course. A small break was given between the two sections.

The participants were monitored for behavior changes and physical behaviors that would indicate stress or fatigue. In the case of fatigue, participants were asked if they wanted a break to get water or walk around. In the

case of frustration, participants were given the option to return to class and finish the interview at another time.

This semi-structured interview process enabled the researcher to have a line of questioning in place that helped focus the interview process and allowed the development of new questions in response to the information that was generated by the participant (Creswell, 2013). Clarifying questions (i.e. sub questions) were prepared in case of a participant needing re-phrasing or further prompting in order to keep the dialogue moving forward and help establish rapport. The limited number of questions was due to the short time frame of the interview. The questions were very specific, with the intent that participants would focus their answers with more specific questions. The full interview questions can be found in Table 2.

Table 2

Full Interview Questions with Sub Questions

Prompting Questions	Sub Question
1. Please tell me about times when you feel like you learn the best here at school.	a. Is there anything that you really like about learning here at school?
	b. Is there anything that you really don't like about learning here at school?
2. Please tell me about learning history in your blended history class.	a. Is there anything that you really like about learning history in the blended history class?
	b. Is there anything that you really don't like about learning history in the blended history class?
	c. Please give me some examples of about how you know that you have learned something when you are in the blended history class.
3. Can you explain to me how you know when you have learned something?	a. Do you feel like you have learned more new things about history in this blended class or in your other traditional classes?
	b. What parts do you like/enjoy?
	c. What parts do you dislike?
Course Exploration	
We are going to look at Canvas now, I would like you to show me things in the course that you really like and things that you really don't like.	a. Please tell me how you like to use technology for fun.
	b. Please tell me how you like to use technology to learn.
	c. Please give me an example of when you have learned something new using technology.

Interview questions were grouped together because they focused on understanding the learning process, or thoughts about learning, for each participant. Once participants felt that they had discussed and answered each of the research questions completely, a small break was taken while participants would log into the Learning Management System (LMS) (i.e., Canvas) which housed their course. The participants were then asked to provide a "guided tour" of the online component of the course. The participants were asked to identify assignments or content that they preferred and content that was not preferred.

Interviews were concluded with a structured statement which restated the purpose of the study and asked participants to provide any extra information they wished to share about their experiences while learning in their current blended history classroom. Additionally, at the end of each of the interview session, the participants were given the opportunity to ask their own questions and make any general additional comments.

Trustworthiness

The follow-up member checking session was held within three days of the initial interview of each of the participants (Carlson, 2010). These sessions varied in length from 10 minutes to 30 minutes depending on the amount of clarification that each participant wanted to provide. These sessions provided the participants an opportunity to review their comments that were recorded and provided the researcher with the opportunity to ask clarifying questions.

Data Coding

The interview questions were designed to explore the participants' preferences in terms of general learning and then, more specifically, target the blended setting, which in the case of this study was a history course. Both descriptive and NVivo (Maher, et al., 2018) coding processes were used for all the questions allowing the researcher to employ both an interpretive lens and the direct language of the participants to create the key word codes.

Using a phenomenological lens when reading the interview transcripts, there was a distinction between the online content portions of the course and the in-class content of the course. The participants often made comparisons between the two distinct portions of the course, which then provided a way to divide the data from Questions 1 through 3. Once the preference data had been separated between content settings, the data was again subdivided into either positive or negative preferences. This created four categories: (1) Instruction from Teacher- Positive, (2) Instruction from Online Content- Positive, (3) Instruction from Teacher- Negative, and (4) Instruction from Online Content- Negative.

In analyzing the data from the "guided tour" of the course, it was important that the researcher use a Heideggerian approach due to the fact that

the researcher had previously worked with the participants at the school site (Reiners, 2012). Additionally, the researcher needed to use their previous experience as a classroom teacher to focus on the participants' meaning rather than the exact words that the participants were using. This was important, as the participants would often use inconsistent language to describe their preferences. For example, Matt would often say, "I like it cuz [sic] it's like we get to search up like the something that we don't know we search it up." Due to both his disability and his second language struggles, this sentence structure and syntax could lead to confusion during data analysis. Yet, Matt was mixing terms essentially to say he liked the fact that he could look up answers online or search for answers, leading to the phrase "search it up." This understanding of the participants' language usage came from the researcher's previous work with the participant population of the school. Question 4 data was then added to the overall data collection for Questions 1-3.

With these sub-category divisions, the researcher was able to identify 48 key words and word phrases that were significant to the study in terms of the participants' positive and negative preferences in the blended history setting. This early organization of the information allowed for a second round of refinement and adjustment to the preferences and meanings associated with those preferences (Table 3).

After grouping word phrases into positives and negatives of the two instructional components of the blended history class the phrases were then examined for context. The identifiable preferences from the participants were: (1) all of the participants would take a blended class in the future if it was a part of post-secondary education, (2) all of the participants agreed that taking a blended course prepares them for future blended courses, (3) all of the participants found the course content to be accessible and (4) all the participants perceived that the navigation of the course learning management system was also accessible.

Table 3
Example of Key Word/Phrases for Coding Data Responses

Preference	Key Words or Phrases
Instruction from Teacher	Providing examples
Positive	Shows us how to do things
	Helps more
	Grading
	Working at the board
	Going over notes
	Telling us, not typing
	Doing group work
	One-to-One Instruction
Instruction from Online Content	Different settings
Positive	Researching answers
	Reinforcement of concepts (outside websites)
	Easy to turn in assignments
Instruction from Teacher	When there are not enough examples
Negative	
Instruction from Online Content	When there are not enough examples
Negative	Links that do not work
	Having to scroll all the time

FINDINGS

Findings emerged in four categories: (1) willingness to take a post-secondary blended course, (2) utility of previous blended courses for future ones, (3) instructional accessibility (4) course navigation.

Taking Future Blended Courses

All six participants in the study agreed that blended classes were something they would probably see in a post-secondary setting; therefore, they would take a blended class again if needed. All of the participants expressed

a desire to have a choice in the format of the course they would like to take; however, Andrew, Matt, and Luis stated that the blended learning would be their preferred format for taking a future course. Harley and Jacob did not have a preference, but Harley did express that having seen other people use an LMS in the post-secondary setting made her believe she would have to as well. Dee expressed his desire to take courses with a live teacher only but indicated that might not be an option at the post-secondary level.

When asked to elaborate on why he believed that he would struggle, Dee said, "It's just that it would probably be different. Some things might change from the high school one to the college one. So yeah." This same sentiment was expressed by the other participants—all of them understood that if they were to take college courses their current experience would help them, but they were still unsure about whether they would be able to be successful in the courses. All the participants struggled with describing the specific reasons for their preferences; therefore, it is difficult to determine the true nature behind the participants' concerns. When asked directed questions, Dee was able to articulate that reading within the course was a concern, as illustrated by this exchange:

Researcher:	Ok, so how about the reading? Do you think the reading is still going to be a problem for you?
Dee:	Maybe
Researcher:	Ok, so do you usually struggle with your reading in all your classes? or is it just when you have to do it by yourself?
Dee:	When I have to do it by myself.
Researcher:	So, you like that out loud? (yes) So if you were able to have it read to you out loud? Like if the computer...
Dee:	If the computer would read it out loud, I think it would be much better too, it would help.

For Dee, his concerns were about the reading of the content materials, which could be addressed through use of a text-to-speech application. This suggests the importance of asking participants with disabilities their opinion of which of their needs or skills should be addressed in a course to provide access to the course content more effectively. While Dee's negative preference was not representative of all the participants, it illustrates a need to consider the obstacles that participants may encounter at the post-secondary level. Which was also supported by Harley's comments about experiencing Canvas:

Researcher: Ok what about, is it easy for you to move around like for you to get to where you need to be in Canvas? Or is it confusing for you?

Harley: It's easier. It is a little confusing for me but it's easier for me to move around in Canvas.

Researcher: So, do you think that if you used Canvas again for another year it would be even easier?

Harley: Yeah, cuz when I first been on Canvas it was confusing, I am not going to lie. I am going to be honest in this interview. It was confusing, I didn't know where to go. I had to ask one of my teachers where to go. I had to ask her like three times. The third time, the fourth time I got it the hang of it. I kept asking, but if I use this again in college and which I am going to have to, then it is going to be more easier for me because I know where everything is at. I just need to know where everything is so, yeah.

Researcher: So, if you had someone show you more tools and more things to do in here, do you think it would make the class better for you? Or...

Harley: Yeah... so ok. If we ok, so we only past this year we only went to the computer lab like maybe like 20 times, or maybe more, not sure, but if we cuz if we went every week then I would get sick of Canvas. But since we are a blended class we do work in the classroom and work on the Canvas. That's kinda flexible cuz I am not staring at computer screen all day. So, its flexible, so I like working on Canvas but if I was able to work on this again it would make it easier.

For participants with disabilities, it may be necessary to pre-teach the skills needed to navigate the LMSs, such as teach them how to find tools or apps that would allow them to apply their accommodations, which would in turn empower participants with disabilities to be able to take a more proactive role in their blended courses and learning at the post-secondary level.

Accessibility of the Course Content

In terms of preferences toward instruction in the online setting, while none of the participants struggled with being able to gain access to the textbook in the online setting, all of the participants agreed that reading the textbook was an issue. In addition, all of the participants agreed that having some way for the textbook to be read aloud to them would have been a benefit. For Jacob and Dee, the logistics of the textbook being a static document in the computer was an issue. For example, Jacob referred to having a real textbook in order to turn pages versus having to scroll on the computer screen. Dee stated that he would have preferred to be able to highlight (i.e., annotate) the text. Four of the six participants stated that having the teacher provide instructions and additional content information was the main reason they preferred the in-class portions of the course. The lack of ability to clarify instructions and descriptions was the main reason given for not preferring the online setting for instruction. Only Andrew listed the idea of hands-on

work as a preferred method of learning, but he also felt that the videos within the course provided him the same information as doing a project in the classroom.

Four of the six participants mentioned a preference for working in groups. Dee and Matt both noted that being able to talk with others about the work was a benefit. Jacob stated that he preferred to answer questions about the content out loud rather than have to write it down. This preference was mentioned more than once by Matt, which is in line with the fact that Matt also qualified for services in the area of written language. While, Harley and Luis did not directly mention working in groups as a preference, they both used a group discussion to illustrate part of the online class that they did prefer.

During classroom discussions, the participants mentioned that the course had utilized both online discussions and in-class live discussions about the content. Matt, Dee, Jacob, and Andrew noted that they all preferred the in-class discussions over the online discussions. Jacob stated that he preferred the in-class discussions because the teacher would also contribute to the discussion. This preference may be related to the participants' preferences to work in groups during classroom instruction, whether in class or online.

When looking at the preferences of the participants in terms of access to the content, they were varied. The common thread among the preferences was the ability to discuss and work in groups, whether in the classroom or online sessions. The implementation of structured online discussion tools that mimic classroom discussions could benefit participants with disabilities in the blended setting.

Accessibility of the Learning Management System

In asking the participants to access their LMS, the participants were all able to move quickly through the process of logging on and entering the course. All of the participants agreed that they felt comfortable using the LMS and navigating around within the course. When the participants were asked to choose an assignment or activity that they preferred or did not prefer, all of the participants were able to easily identify the activity, go to the activity, and open the activity for further explanation. During the session with Dee, he mentioned a scavenger hunt that participants completed to help them learn about the LMS earlier in the year. While none of the other participants mentioned the scavenger hunt, the ease with which all of the participants navigated the LMS indicated that there was familiarity and comfort in using the LMS.

It was interesting to note that none of the participants chose the same activity for their preferred activity. Nor did they did choose similar activities for the non-preferred activity. The reasons given for their preferences ranged from ease of content to ease of manipulation within Canvas.

While all the participants were aware of and able to access the textbook within Canvas, the participants did not prefer using the online textbook. Matt stated that he did not like the constant scrolling with the online textbook but would rather have the real textbook to be able to just turn pages. Dee also mentioned that he would have preferred to be able to highlight the text when he was reading. This feature was not available to participants because the textbook was a scanned PDF file and not an interactive online textbook.

In terms of assignments, both Dee and Matt noted their preference to type their work into the computer and use the online submission within the LMS. Dee preferred this because it allowed him to type his work and answers directly into a Word document, which he liked better. Matt liked the fact that all the work could be submitted at any time, and this allowed him to turn in work when it was finished. Jacob also preferred to use the Word documents over having to enter answers into a text entry box. He preferred the variety of formats that were available to him to access the content—the videos, websites, and other resources found within the LMS that were not used in the in-class setting. Jacob especially preferred the videos to help him learn the content.

Luis expressed his excitement about using LMS while taking college courses, as he had taken an orientation session at the community college and was introduced to more tools within Canvas that could help him to complete his work:

Me: So is there anything else in here that you would like to show me, something that you like, or something that you think is really cool?

Luis: Ok, I like how you can message your teacher, that is really cool. I like that right here, when teacher assigns an assignment, I like it shows up right here.

Me: It might come off because it is already done,

Luis: Oh yeah, yeah.

Me: Sometimes that happens. So, you use the other tools? You have used them before?

Luis: Yeah, one of our assignments was actually to use all of the tools and explain them. So, but like see this one right here, see 'message my teacher' we just had to message her. And be like 'hi teacher, how are you' and whatever. And then I liked the scavenger hunts. Oh, I like how it also does the EOC guides. That for me, I really like that cuz I can click right here or the review materials, I can open up this PowerPoint, and then I can go through and read all the slides. I did a lot of study cards off of most of these. But yeah, I like the PowerPoints a lot. Also, for citizenship we did a survey, it sees if how hard it was to, a practice test to see about becoming a citizen. And holy cow that was hard, it was really hard. I was like dang, they really want it. They ask you about a lot of questions. I like how they have the textbook already into chapters. That makes it so much easier to navigate through. I can use the Adobe, or whatever it is called, I can navigate through it too, but having it right here like boom, open it up, its right there.

In reviewing the responses in terms of the participants' ability to navigate the LMS, this area does not seem to be one of concern for participants with disabilities. All of the participants were comfortable using the LMS in order to find the assignments, access the resources, and use the tools within the LMS. All of the participants have had prior experience with a different LMS in previous courses, which may have played a role in their ability to adapt quickly to learning about and navigating the current LM. None of the participants expressed any negative preferences toward the LMS itself; it was really a matter of whether what was there was accessible to them.

IMPLICATIONS OF THE FINDINGS

Although there was not a specific instructional practice or characteristic of the LMS that facilitated participants' non-preference for the blended course, there were areas of concern that need to be addressed in order to help these participants feel as if the course and course content are more accessible and usable. The participants in the study indicated that the reading material and resources were not accessible or usable. In the case of the PDF textbook that was provided for content reading, all the participants discussed a preference for having the material read "out loud" to them. When this common accommodation was in place, all of the participants agreed that access to the material was improved. Additionally, the participants stated their frustration in terms of links that did not work or information that was not present. Whenever the access to content had limitations, whether from the lack of technology tools or the inability of the technology to work effectively, participants' preferences for the learning environment may be negatively impacted.

With the continued increase at the post-secondary level towards more courses being offered online (Olsen, 2001), early introduction to online learning at the secondary level has the potential to increase participants with disabilities positive experiences when they get to the college level. As demonstrated in this exchange with Jacob:

Researcher: And so, do you think that you're going have to take a class like this again someday?

Jacob: Probably yeah.

Researcher: And do you think that you will at least be prepared to take the class?

Jacob: Yeah.

Researcher: You feel like you would be prepared right? You would know how to navigate in the class, find all your assignments, and submit all your work?

Jacob: Now I do.

Jacob suggested that just the exposure to the blended learning environment has impacted his confidence that he could take another blended course at the post-secondary level and feel comfortable in using the LMS. With the use of various LMSs for both live classes and online courses at the post-secondary level, early experiences could also affect participants with disabilities ability to complete courses successfully.

LIMITATIONS

Because this is phenomenological work, generalization in the statistical sense was never the goal. Therefore, technically, there are no limitations. However, the researcher acknowledges that these are the experiences of only a few students. Even so, this study highlights the need for teachers to take time to listen to students discuss accessibility from their point of view. Often, accessibility is a matter relegated to lists from the government and tools developed by others. In this study, students said whether they thought the material was accessible to them in that moment.

The researcher also acknowledges that this study took place in a shortened timeframe. However, teacher work in schools is often done under such constraints. If teachers are going to ask students about how they experience the curriculum, they need a few questions and they need to ask, listen, and apply what they learned. Also, these participants were seniors in high school and would not be around for extensive follow up work. Even so, what students have to say is vital because they are transitioning to adult life and will likely need to use internet resources for future learning and professional experiences.

Another potential area of concern might be my subjectivity as a past teacher of these students. While some paradigms and research protocol would find my primary relationship with the students detrimental to the credibility of the study, in phenomenological work, embracing these relationships and one's own embeddedness is desirable. Moreover, it is not entirely certain that a person coming in from the outside who spent a limited time in my school and community with me and my students would have an entirely accurate picture of who the students are and what their experiences were, either (Hammersley, 2012). The goal was to use insider knowledge of

the context and the researcher's formal training as a scholar in the academy to learn about how students were perceiving the materials that were giving them to use (Cochran-Smith & Lytle, 1990; Erikson, Young, & Pinnegar, 2011). In the process of determining this, the study might also afford some insights that would inform research and teaching practice.

RECOMMENDATIONS FOR FUTURE RESEARCH

The findings of this study provide a counter example to several previous studies that examined students' perceptions about blended learning and found that participants reported positive experiences with the blended learning environment (Avci, et al., 2015; Psycharis, et al., 2013; Yapici & Akbayin, 2012; Yildirim & Vural, 2016). Also, a previous pilot study conducted by the researcher reported that participants found students had negative impressions of the blended setting, but no analysis was conducted that would have provided an explanation for this (Alvarado-Alcantar, et al., 2018). The current study suggests that some of the frustration could have come from the lack of accessible curriculum since many studies with positive perceptions do not include students with disabilities. Another explanation might lie in previous experiences with using technology in a classroom. For example, if blended learning's use of online technologies was a novelty in previous studies, students might be so excited about using computers and the internet that they did not carefully consider whether they could access the curriculum. Finally, the studies that find success for blended learning have not considered how the various on and off-line elements contribute independently and collectively to the positive perceptions and the increased achievement.

In this study, the participants acknowledged that they expected to encounter blended courses in the future during college courses; therefore, they would need to be able to understand how to work within a blended setting. The participants also expressed their comfort with working online and turning work in through the course LMS. Catalano (2014) found a similar perception from students during a study at the higher education level. Experience with an LMS could play a factor in the accessibility of a course in terms a of a student's comfort in accessing online content. Yet, the participants still reported that they would prefer an in-person teaching environment rather than taking an online course in the future.

Finally, the participants expressed their perceived struggle with textbook reading within the course, both online and in class, and indicated that read-to or read-aloud options would be preferable to the independent reading option. This lack of access to a text-to-speech tool at the secondary level is an area of concern. A deeper look at tools, or lack of tools, being used by classroom teachers could be a factor that changes a student's perception of the blended learning environment.

Future research should further investigate what methods would be most impactful for participants when first encountering an LMS. Research comparing the experiences of participants who have never experienced a blended course and those who have, could determine how much past experience may be impacting perceptions of blended learning. Additionally, it would be beneficial to have a long-term study to investigate changes in perceptions of each participant over the course of a school year, and if possible, into their post-secondary experience as well. Additionally, perceptions of the teachers as the instructional facilitator for blended learning courses are important to study.

CONCLUSION

During this study, the preference of participants with SLD in a high school blended setting were explored to see if there were any identifiable trends or themes that could then be used to help in the development of future blended courses. This new information about the accessibility experiences of participants with specific learning disabilities can be used to help course designers and teachers create blended courses that are perceived by participants to be informative, helpful, and beneficial in providing skills they will need in the future. Therefore, there is still a need for further investigation into the needs of students with disabilities, with a focus on specific learning disabilities, in the blended high school setting.

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