



The Perceived Impact of Online Course Design on the Persistence of Students at Historically Black Colleges and Universities

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ABSTRACT

This research study aimed to investigate the influence of online course design on the persistence of undergraduate students at Historically Black Colleges and Universities (HBCUs). By examining the concept of persistence, the study aimed to enhance understanding of how integrated online learning materials can promote student engagement, academic assimilation, and social acceptance. The study considered the impact of the COVID-19 pandemic on online education and sought to contribute to discussions on online course design effectiveness. The study was conducted at two HBCUs in the southern region of the United States. A qualitative research method was employed, utilizing purposeful criterion-based sampling. Seventeen undergraduate students who had enrolled in fully-online courses participated in semi-structured interviews, which were transcribed and analyzed using open, axial, and selective coding techniques. The findings revealed several themes related to student persistence in online courses. Participants expressed a preference for asynchronous learning, highlighting the flexibility it offered. Student-instructor interaction was identified as vital, emphasizing the importance of regular engagement, personalized guidance, and timely feedback. The value of multimedia resources and engagement with classmates was recognized, with participants valuing diverse materials and interactions that enhanced their understanding and motivation. Community-building activities, such as online discussions and group projects, were found to foster a sense of belonging and encourage active participation. These findings provide insights for HBCUs and higher education institutions to enhance online course design and support mechanisms for student persistence. The study underscores the significance of teacher presence, interactive learning environments, and institutional support for online educators and contributes to the advancement of online education and promotes successful student outcomes within the context of HBCUs.

Keywords: Online course design, persistence, retention, historically black colleges and universities

INTRODUCTION

With technological advancements making it easier for students to access and traverse the Internet, the second half of the 1990s witnessed significant growth in online enrollments, whereas an increasing number of institutions decided to provide online programs (Herbert, 2006; Herron & Wright, 2006; Simonson et al., 2012). An appealing combination of greater flexibility and unlimited digital connectivity to vast amounts of knowledge is responsible for the rapid adoption of online education courses (Sitzmann et al., 2006; Zimmerman, 2012). The availability of online courses enables students to schedule their studies around other obligations, which may not otherwise be possible (Lee, 2017). Despite huge expansion, the persistence levels of online courses are much poorer compared to the ones delivered in-person (Xavier and Meneses, 2020; Muljana and Luo, 2019; Delnoij et al., 2020). Negative elements such as a lack of engagement with instructors and other classmates, problems with learning resources, infrastructure issues, and difficulties of work, health, and family obligations can limit the convenience of online learning (Greenland & Moore, 2014; Ilgaz & Gulbahar, 2015). This research attempted to answer questions concerned with the course design elements that may have an effect on the persistence of students enrolled in online courses at Historically Black Colleges and Universities.

Purpose of the Study

The primary purpose of this study was to examine the impact of online course design on the persistence of undergraduate students at Historically Black Colleges and Universities (HBCUs). Despite the rapid growth and widespread adoption of online education, issues such as involvement, collaboration, dedication, integrity, and quality remain significant concerns. This study aimed to address these concerns and understand how integrated online learning materials could enhance student involvement. By examining the concept of persistence, the study aimed to contribute to a better understanding of how online courses can be designed to promote student engagement, academic assimilation, and social acceptance.

The study took into account the impact of the COVID-19 pandemic, which accelerated the adoption of online education worldwide. As educational institutions quickly transitioned to online delivery, the study recognized the need to examine the quality of online learning in this new and rapidly evolving landscape. It aimed to contribute to the ongoing discussions on online course design and its effectiveness in promoting student persistence.

The study provided valuable insights for HBCUs and higher education institutions in general, to help them enhance online course design and support mechanisms to improve student persistence. The findings can inform institutional policies and practices, emphasizing the importance of teacher presence, interactive learning environments, and institutional support for online educators. Ultimately, the study sought to contribute to the advancement of online education and promote successful student outcomes in the context of Historically Black Colleges and Universities.

CONCEPTUAL FRAMEWORK

Components of the social integration theory and the interaction equivalency theory were synthesized to understand the elements of online course design that contribute to developing an online learning environment in which students will choose to remain enrolled (Croxtan, 2014). This is represented by figure 1, which illustrates how the type of interaction (Interaction

Equivalency Theory) and the experience with the university system (Social Integration Theory) are tied to one another for the purpose of this research.

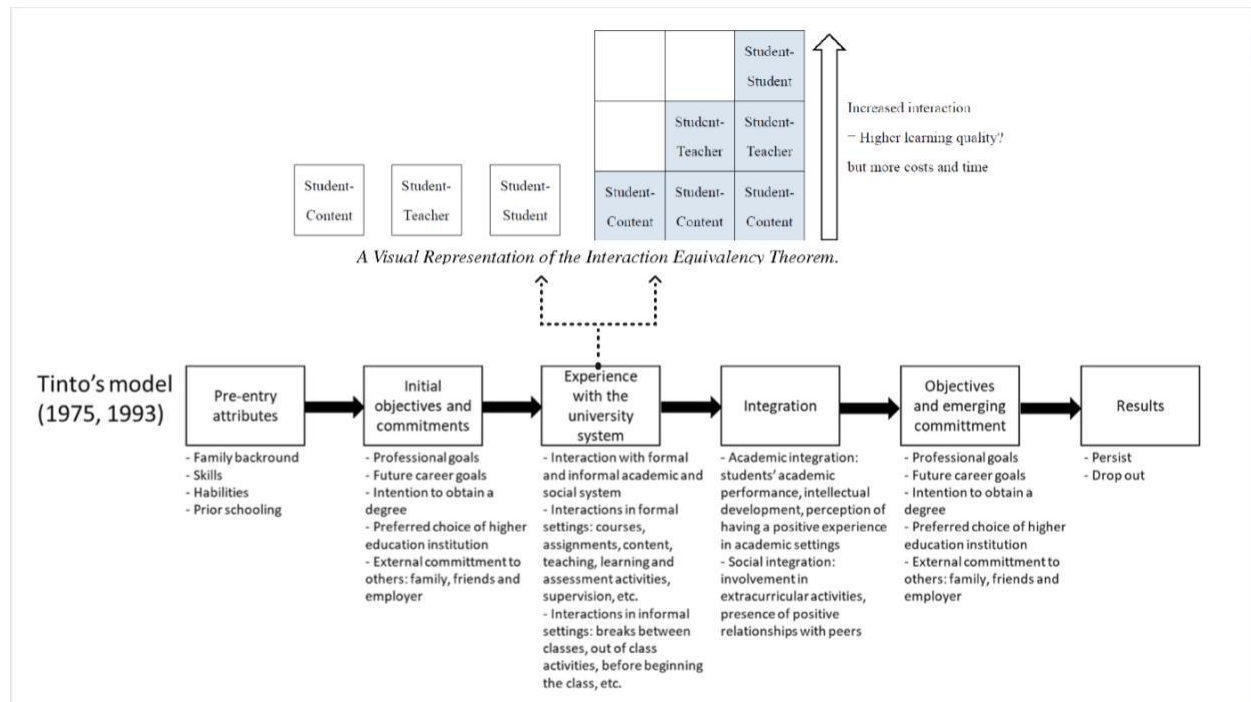


Figure 1. Conceptual Framework (Tinto, 1975,1993; Anderson, 2003)

Social Integration Theory

Online course designers understand the crucial role that interactions with students and the connection between students have in a student's decision to persist, as explained by Tinto's (1975, 1993) social integration theory and supported by the empirical literature (X. Liu et al., 2007; Morris et al., 2005; Rovai, 2003; Tello, 2007). By addressing the requirement for students to integrate into both formal and informal academic and social systems of an academic community, making opportunities for deliberate, meaningful engagement a fundamental component of online course design may help to increase persistence (Croxtton, 2014). In light of this, it is possible to partially explain persistence or attrition in the context of online learning to students' interaction (or lack thereof) with their online learning environment, including their interaction with students and instructors (Croxtton, 2014).

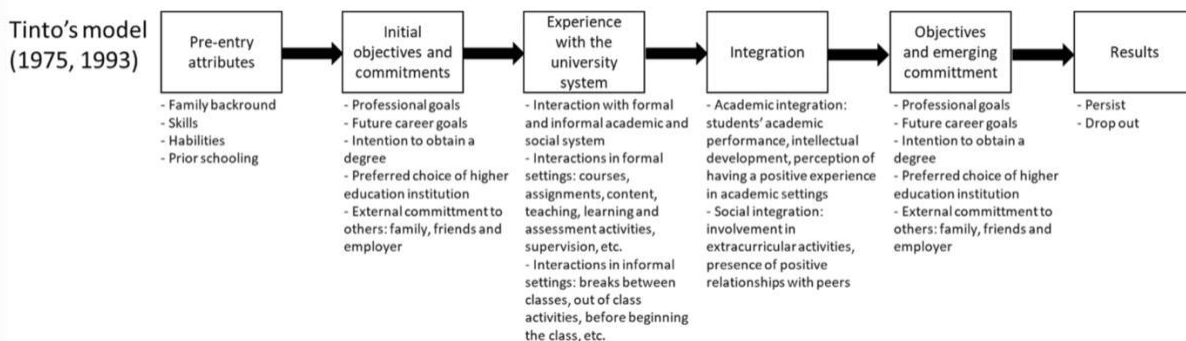


Figure 2. Tinto's Social Integration Theory (1975, 1993)

The likelihood of persistence is increased when online students have a sense of community in their online learning environments (Liu et al., 2007; Morris et al., 2005; Tello, 2007). Liu et al. found a correlation between students' sense of community and decreased feelings of isolation as well as decreased possibility that they will drop out of their online courses in a case study involving 28 faculty members and 20 online MBA students (Liu et al., 2007). Tello (2007) found a significant, positive association between the usage of asynchronous methods of engagement by the instructor inside a course (i.e., discussion forum and email) and favorable student views regarding that course in a survey of 1569 undergraduate and 51 graduate students. Student views about interaction and course persistence showed a slight, positive association (Tello, 2007). Further analysis of the study's data revealed that just 11% of the reasons students gave for quitting or declining to sign up for another online course related to instructor engagement (or lack thereof) (Tello, 2007). Morris et al. examined 354 undergraduate students' participation data in asynchronous online courses, of whom 284 continued and 70 withdrew, in order to examine the link between course interaction and persistence from a new perspective (Morris, 2005). According to Morris (2005), participation involves reading the assigned readings, participating in conversations, posting the latest comments, and replying to comments from other students. When student participation statistics were analyzed, it became clear that participants who completed the course had considerably greater engagement levels than participants who withdrew (Morris, 2005). The results of these research studies support Tinto's (1975, 1993) social integration theory by demonstrating that student persistence is significantly influenced by integration into informal academic systems (faculty/staff contacts) and informal social systems (peer groups) (Croxtton, 2014). One of the key factors in a student's decision to continue in an online course is the interaction of the course, especially between the student and the teacher (Croxtton, 2014). Therefore, online instructors intentionally create courses that provide students with plenty of opportunity to engage in meaningful and supportive interactions amongst one another and the teacher as part of the university's overall retention strategy (Croxtton, 2014).

Interaction Equivalency Theory

Online courses allow for formal course interaction between students, instructors, and course materials (Graham & Massyn, 2019). Anderson (an accomplished distance education instructor) derived the interaction equivalency theorem using inductive reasoning after seeing that no single style of interaction is preferable in supporting the distance education process (Graham & Massyn, 2019). The interaction equivalency theorem was designed as a theory for understanding interaction in distance education courses, succeeding Moore's (1989) three-part theory of interaction, which includes of the student-to-content (S2C), student-to-teacher (S2T), and student-to-student (S2S) interaction dyads. The interpretations of student and instructor are self-explanatory, but the definition of content is less evident, as Anderson (2003) categorizes that student to content activities in online courses include specific interactions among students that compensate for the student to teacher interaction in an online course environment (e.g., interactive media, asynchronous communication in discussion boards, assessment programs, and videos). Anderson transformed Moore's three-part model of interaction (1989) into a theorem that includes two new dimensions: quality and quantity (Miyazoe & Anderson, 2010). Approximately 25 research studies were conducted on the interaction equivalency theory between 2007 and 2018, demonstrating persistent and widespread interest in the device (Graham & Massyn, 2019).

According to Thesis 1 of the equivalency theorem, just one strong arrangement of the three interaction groupings is required for profound and meaningful online learning, therefore the importance of all interaction dyads is equivalent to one another (Miyazoe & Anderson, 2015). The first thesis relates to closed systems in which both resource and time restrictions influence the preference for one form of strong interaction over another (Graham & Massyn, 2019). The second thesis applies to open systems where inadvertent interaction excesses, such as a guest lecturer, are plausible and enhance learning (Graham & Massyn, 2019). However, if another significant type interaction is implemented, the cost and duration will increase (Miyazoe & Anderson, 2011). Although adding more interaction types with the same strength may be advantageous, there still remain cost and time factors to take into account. (Figure 3)

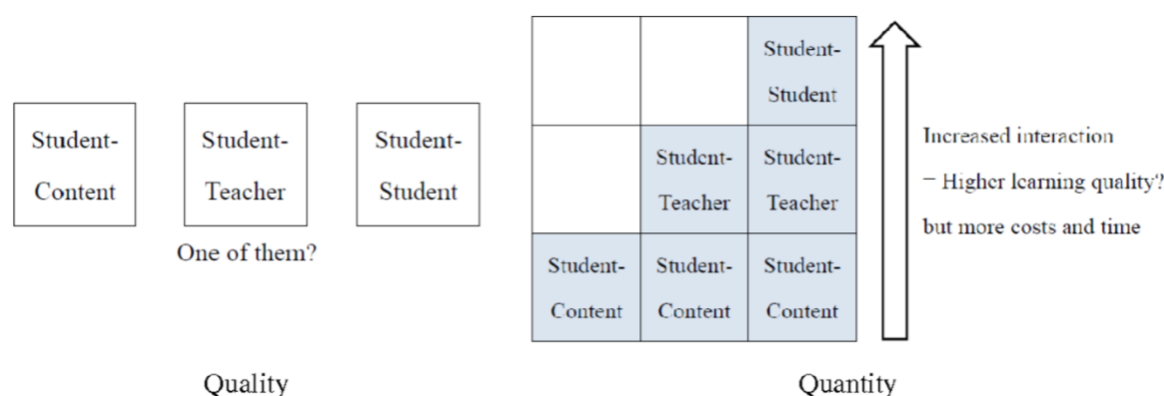


Figure 3. The Interaction Equivalency Theorem

Interaction between students is crucial for online learners' pleasure (Croxtton, 2014). Ivankova and Stick's 2007 cross-sectional study of 207 PhD students revealed evidence in favor of student-student interaction: those who successfully matriculated in the program received more relevant and constructive peer input than those who dropped out. Hollenbeck, Mason, and Song (2011) discovered that participants in a separate qualitative interview research of 32 undergraduate and 22 graduate students reported they depended on student-student connectedness because it lessened the perceived danger of subpar performance in a course. These results suggest that student-student contact is crucial for online learners' persistence (Croxtton, 2014).

Online student happiness is significantly influenced by student-student interaction, while student-instructor communication is one of the most significant indicators of student satisfaction (Croxtton, 2014). Thurmond et al. (2002) showed that having a range of methods to be assessed, knowing the teacher, and receiving timely feedback from the instructor were all strongly connected with student satisfaction, which serves as an example of this argument. The researchers found that in the same survey, people who gave the best answers on the question of how well they knew the teacher reported taking part more actively in online discussions (Thurmond et al., 2002). For the duration of a course, it is crucial that students believe they can reach their professors with ease and get quick, accurate feedback (Croxtton, 2014). Students may feel more stable and integrated into the online learning environment by developing an interactive relationship with their instructor (Hollenbeck et al., 2011). This engagement may take place one-on-one or among student groups and the instructor (Hollenbeck et al., 2011). When at least one of the three types of formal interaction—student-student, student-instructor,

and student-content—is present at an elevated level, deep and meaningful formal learning is more likely to occur (Miyazoe & Anderson, 2015). Going back to the interaction equivalency theorem, all three types of formal interaction are beneficial to learning and satisfaction (Anderson, 2003). While social connection, particularly between students and instructors, appears to be a key component in meeting student requirements, student-content interaction has been proven to be a major predictor of student satisfaction and persistence specifically in online courses (Kuo et al., 2014).

The interaction equivalency theory was created with the perspective of distance education course designers in mind, with the assumptions that there might be time and financial constraints on the course of instruction, that the final result is learning, and that the subject to be studied is the same regardless of the manner of which instruction is employed (Graham & Massyn, 2019). Several elements, including the learner's preferred learning style, the course designer's preferences, the course's market value, and the mode of delivery (e.g., classroom), are taken into account when designing an effective online course with adequate student engagement (Anderson, 2003) that may have the ability to positively impact persistence.

Furthermore, this study sought to capture student perspectives regarding the impact of online course design on their persistence through the lens of both the Social Integration Theory and the Interaction Equivalency Theory. Tinto's theory of social integration addresses both academic and social integration, but the interaction equivalency theory provides context for analyzing how these components might be actively encouraged in online and distance education courses (Anderson 2003; Tinto, 1975, 1993).

LITERATURE REVIEW

Even at some of the greatest colleges, online programs have been badly constructed or designed poorly (Vai & Sosulski, 2016). Faculty and students may feel disoriented if they lack assistance, structure, or a feeling of community (Vai & Sosulski, 2016). Good, well-intentioned colleges have seen programs fail because they were unable to produce courses that consistently engaged and challenged students (Vai & Sosulski, 2016). Flat materials, such as static text documents, are insufficient for creating online courses that achieve elevated levels of interactive engagement and student happiness; multimedia education has been highlighted as a critical component of student satisfaction in an online setting (Liaw, 2008; Bollinger & Wasilik, 2009). Faculty may use their creativity and adaptability to create an engaging and inspirational online educational experience by using a range of media assets such as text, audio, video, and graphics (Haley, 2010). Effective online learning, on the other hand, is the outcome of a well-thought-out instructional design effort that addresses pedagogical requirements (Murray et al., 2012).

Moore and Fetzner (2019) investigated online institutions with similar retention rates to their face-to-face counterparts in order to better understand successful online course design. They discovered that successful online universities used a system-wide approach to utilizing Sloan-quality C's framework, which focuses on five pillars of learning: efficacy, access, scalability, faculty satisfaction, and student happiness (Moore & Fetzner, 2019). These institutions used a variety of tactics to improve access, including customizing the learning environment, training students to be online learners, and providing accessible courses (Moore & Fetzner, 2019). Student happiness was improved through a number of tactics, including the creation of a user-

friendly space in the online classroom devoted to student achievement in order to improve student readiness (Moore & Fetzner, 2019).

Another study explored both the methodical approach to, and the technology for, course design and development, with the goal of assisting the transition from traditional teaching to online learning and increasing students' interest in the themes of e-learning and Web courseware creation (Hoic-Bozic et al., 2009). Findings revealed that students were pleased with the educational approach, and their academic performance was also higher than predicted (Hoic-Bozic et al., 2009). Additionally, the dropout rate was significantly reduced, which might be attributed to students' happiness with the help they received from both the system and the professor (Hoic-Bozic et al., 2009).

Multimedia platforms assist educational instruction by enabling flexible and real interactions between teachers, students, and content (Almara'beh et al., 2015), with digital tools frequently offering simulated opportunities to improve learning (e.g., Vagg et al., 2020). It has been demonstrated that using multimedia in online courses has a favorable effect on education (e.g., Kostolansk et al., 2019) and increases learning and participation among students (e.g., Martin et al., 2018). King (2014) discovered, for instance, that screen-casting that make instructors more visible have pedagogical benefits, and that video-based instructor introductions can facilitate the formation of relationships with professors, resulting in more constructive course evaluations (Jones et al., 2008). In learning environments, mobile and digital technology can offer substantial benefits and affordances, such as fostering and supporting creative, collaborative, critical, and communication skills (Cobcroft et al., 2006). Inclusion of media tools (Havice et al., 2010) may stimulate learners' desire to learn and increase students' engagement with course content; however, instructor inexperience with digital tools has frequently been observed to inhibit student learning during the COVID-19 pandemic (Chu et al., 2021). Videos have been suggested as a medium for fostering social, cognitive, and teaching presence (Di Paulo et al., 2017), with asynchronous video being an excellent tool for fostering students' perceptions of teaching presence and immediacy (Crawford, 2018).

Similar to the arguments in favor of multi-modal asynchronous tools, the arguments in favor of synchronous video conferencing in online courses appear to be more theoretical than empirical (Goroshit, 2018; Hart, 2012; Leeds et al., 2013; Liu et al., 2009; Northrup, 2009; Zhan, & Mei, 2013), as there are few empirical studies on the actual use of synchronous video conferencing tools in online courses. To address this, Skylar (2009) conducted a study comparing asynchronous and synchronous online instruction with forty undergraduates obtaining teacher certification. Almost three-quarters of the students responded that they would prefer to enroll in an online course that employs synchronous video conferencing technology rather than one that relies only on text-based asynchronous technologies (Skylar, 2009). When there are no face-to-face contacts, students tend to believe the instructors are less supportive and feel less happy, therefore some researchers have determined that the similarities between synchronous meetings and face-to-face meetings are vital for students to feel satisfied (Paul & Jefferson, 2019). Because low-quality synchronous online meetings have a detrimental impact on student learning satisfaction, the quality of synchronous online meetings is critical (Fatani, 2020).

However, blended delivery, which combines asynchronous and synchronous tools, is recommended in the literature as a more effective course design (Gilpin, 2020). Typically, only

one type of technology is used; however, the literature suggests that blended delivery, which combines asynchronous and synchronous tools, is the most challenging to design (Hart, 2012; Joksimovic et al., 2015; Leeds et al., 2013; Liu et al., 2009; Northrup, 2009; Zhan & Mei, 2013). While this may be true, one study indicates that both sorts of tools hold promise (Gilpin, 2020). Clark et al. (2015) evaluated quantitatively the impact of asynchronous and synchronous video as well as a text-based conversation on the levels of social presence in an online teacher education course for undergraduates. Sixteen students self-reported in a survey that their social presence increased significantly when using the video both asynchronously and synchronously (Clark et al., 2015).

Persistence of Online Students at HBCU's

An assortment of studies has investigated the elements that influence student persistence in online programs (Rahim, 2020; Stone & Springer, 2019; Moreno-Marcos et al., 2020; Gilpin, 2020). However, extraordinarily little research currently exists on overall students' persistence in online courses specifically at HBCU's. This study seeks to address this gap in literature by focusing on understanding the impact of online course design on the persistence of students enrolled in fully online courses at HBCU's. According to the U.S. Department of Education's National Center for Education Statistics (2011), African Americans are more likely than any other demographic group to enroll in and finish their entire college academic curriculum online (Moore, 2014). Paradoxically, just 18% of the 107 historically Black colleges and universities (HBCUs) provide online degrees to their students; showing a much slower integration to online learning than predominantly white institutions (Alston et al., 2017).

The demographic usually served by HBCUs faces academic, social, and economical problems, and these educational institutions must be prepared and willing to assist students in navigating the aforementioned obstacles in order for them to achieve academic success (Davis, 2006). Researchers found that low-income students, students who were academically unprepared (Figlio, Rush, & Yin, 2013), African American students (Xu & Jaggars, 2014), male students (Figlio et al., 2013; Xu & Jaggars, 2014) and students who had lower prior grade point averages (Cochran, Campbell, Baker, & Leeds, 2013; Figlio et al., 2013; Xu & Jaggars, 2014) were all members of at-risk populations in higher education.

Although a scarcity of research exists on persistence of online students at HBCU's, there are several global studies that analyze factors contributing to the persistence of online students at both international universities and predominantly White institutions in the United States of America. Using data from a path analysis of 321 distance learners from one of Malaysia's public universities, Rahim (2020) discovered that the link between online student engagement and student satisfaction and learning outcomes was moderated by students' level of persistence in their online courses. This conclusion suggests that distance learners who set an objective and stick to it have a good chance of succeeding, and that the more courses a student completes, the closer he or she is to earning a degree (Rahim, 2020). This study's findings imply that administrators in charge of online education programs should work to establish a sense of camaraderie with their students as soon as possible (Rahim, 2020). It is important for online programs to encourage and help set up support networks for distance learners to help them overcome personal or professional obstacles that may be causing them to consider dropping out of their courses (Rahim, 2020).

Salvo, Shelton, and Welch (2019) performed a comprehensive qualitative study investigating the academic, economic, and technological influences, as well as the obstacles, faced by ten African American male undergraduates who successfully completed online courses at a public university in the southern United States. Lack of professor engagement, lack of expedient feedback, inadequate number of examples, scarcity of notifications, unavailability of teacher-directed learning, and absence of teacher-mediated evaluations were the most significant challenges and difficulties encountered by many participants within the study (Salvo, Shelton, and Welch, 2019).

There have been many efforts to help students succeed in school (Fetzner, 2013; Hart, 2012; Roby, Ashe, Singh, & Clark, 2013), yet some students still struggle to keep going even after numerous interventions. Predictions about persistence in online courses can be formed thanks to the abundance of empirical facts offered by numerous researchers showing retention and attrition tendencies (Boston et al., 2011; Hachey, Waldis, & Conway, 2012; Hart, 2012; Ice, 2012). However, it is important to note that learners may possess the ability to persist even if stats indicate that they will not (Budash & Shaw, 2017). When compiled, this information presents future researchers with a confusing maze of contradictory findings on what drives people to stick with online courses (Budash & Shaw, 2017). Some researchers have found that students' lack of preparation for online learning is more to blame for their low persistence rates than the format itself (Cochran et al., 2014; Lee & Choi, 2011; James, Swan, & Daston, 2016; Wilson & Allen, 2011). The fact that many adults who take courses online are also juggling other commitments means that they may have to take a nontraditional approach to meeting their educational goals (Haydarov et al., 2013). This can make it difficult to pinpoint an appropriate time to test persistence (Boston, Ice & Burgess, 2012). Therefore, it is assumed that poorer retention rates are a constraint on the expansion of online learning options (Allen & Seaman, 2015).

The review of literature emphasized the importance of well-designed online programs and their impact on student persistence, particularly in the context of historically Black colleges and universities (HBCUs). Poorly constructed online courses can lead to disorientation and dissatisfaction among faculty and students. Successful online institutions employ multimedia tools, a system-wide approach, and blended delivery methods to enhance engagement and student satisfaction. Factors such as student engagement, satisfaction, and support networks play crucial roles in promoting persistence. Addressing the challenges faced by HBCU students is vital for their academic success. Further research is needed to better understand the dynamics influencing persistence in online courses and to develop targeted interventions.

METHOD

A qualitative research method was used in this study to understand the impact of online course design on the persistence of undergraduate students at Historically Black Colleges and Universities.

Research Setting

The study was conducted at two higher education institutions with a historical focus on serving African American students, commonly referred to as Historically Black Colleges and Universities (HBCUs), situated in the southern region of the United States. Institution A and Institution B were identified by pseudonyms. Selected institutions are situated in the States of Louisiana and

Mississippi. Institutions A and B have demonstrated advancements in efforts to enhance accessibility of online courses and programs offered to students. Institution A received funding from the state and is part of a separate institutional system, while Institution B received funding from the state and is governed by a state-wide board of higher learning. Institution B received federal funding through the Morrill Acts of 1890, which designated it as a land-grant university.

Population

The population for this research consisted of all of the matriculated undergraduate students at University A and University B. There were approximately 2,308 undergraduate students at University A and 2,533 undergraduate students at University B when the research was conducted.

Sample and Sampling Technique

This study utilized purposeful criterion-based sampling in order to identify research participants. The primary goal for this sampling technique was for the selected participants to be representative of the population of interest while the sampling frame is that of the population from which the sample itself will be drawn (Neuman, 2003). The criteria for students to be included in this study was that they must have enrolled in one or more fully-online undergraduate course(s) during the previous semester. Completion of the course was not an inclusion criterion. This was done in an effort to allow the opportunity for more diverse student perspectives to be explored during the research process. A list of undergraduate students who were enrolled in online classes for the selected semester was requested from the selected university. Based on this list, whether these students are full-time or part-time was not specified. Students were not chosen based specifically on their major; however, students who were enrolled in the same course at the university were sent a recruitment letter.

For qualitative research, it is recommended that at least 10 participants who have direct experience of the target phenomenon be examined through the use of long interviews (Creswell, 2005). In order for this study to be doable, the total sample size consisted of 17 students. There was an effort made to ensure that the demographics include men, women, and students from a variety of racial and cultural origins. Interviews were conducted with 17 individuals who agreed to participate in the study. Interviews continued until the data reached a level of saturation. This assisted in developing a thicker, more richly detailed account of the experiences of the participants as well as gaining a deeper comprehension of those experiences (Creswell, 2009).

Instrument of Data Collection

Data were collected through semi-structured 60-90-minute (about one and a half hours) interviews that took place one-on-one and/or over the zoom online platform. The purpose of conducting interviews was not simply to get answers to questions, but to understand the experiences of the participants. In-depth interviewing is extensively relied on by qualitative researchers (Marshall et al, 2022). In relation to this study, interviews were essential because the aim was to gain an understanding of the perception and experiences of undergraduate students in relation to their persistence in online courses based on the design of the course.

To ensure the best possible reproducibility, questions were structured to ensure the comparability of the experiences recorded (Yin, 2014). The interviews began with broad questions, then progressed to questions regarding the demographic of the participants (i.e.,

length of time as a student), proceeded by questions related to their experience in the online learning environment as noted in the interview guide (Seidman, 2019). Participants were expected to give honest, in-depth, and descriptive responses.

Data Analysis Procedures

In order to analyze the data, each interview was transcribed verbatim. The transcriptions were then read multiple times in order for the researcher to fully immerse themselves in the data. Following Creswell's (2007) method of data analysis, the transcripts were marked with words and phrases in the margins and then transferred to a list to create a coding system. Open coding was the initial cycle of coding that was done for this research. During open coding, the data were dissected analytically in order to scrutinize previously held beliefs and provide room for the development of novel concepts (Strauss & Corbin, 1990). The data were sorted into categories based on the ideas that reflect concepts with comparable impressions. Second, during the open coding phase, axial coding categories were utilized to build linkages with the other categories and subcategories that were identified (Strauss & Corbin, 1990). In the end, a selective coding approach was taken in order to develop an analytical plot. This choice of coding was made after considering the requirements of the study's methodology as well as its conceptual background. The codes were subject to change as the data continued to be processed and reprocessed. These codes were then organized, analyzed, and synthesized to reveal clusters and themes that emerge from the data. The term "theme" refers to "a statement of meaning that runs across all or most of the important material or one that is in the minority but carries substantial emotional or factual effect," according to one definition of the term (Ely, 1991). This assisted in organizing, analyzing, and gleaning insights from the semi-structured interview replies, in addition it assisted with the coding of the participant information according to the thematic research.

A theoretical proposition is the desired method of analysis because it establishes a principle focus to analyze the data from (Yin, 2014). In this study, the research questions served as theoretical propositions. Data were then classified and grouped based on the themes and subthemes which they represented. Exposition of the data followed with an interpretation of how the student participants recounted their experiences with taking courses online.

FINDINGS

Presentation of data resulting from the demographic characteristics obtained during the in-depth interviews.

Study participants were undergraduate students from each university enrolled in a variety of academic majors and at various stages of academic matriculation on each campus. Every participant had taken an entirely web-based course at least once during the previous semester. Five individuals completed at least 10 online courses and had considerable online course experience. One student had spent the previous three years engaged solely in online coursework.

The study sample consisted of 17 students. Most, 13 study participants, identified as African American. Twelve participants were selected from Institution A and five participants were chosen from Institution B. Table 2 provides a summary of the demographic characteristics of study participants. The participant names were changed to pseudonyms to adhere to IRB informed consent regulations. There were six male and eleven female study participants. All

participants were 18 years of age or older with ages ranging from 21 to 58. The average age of the study participants was 25-40. Participants had prior knowledge of synchronous instruction, asynchronous instruction, and hybrid instruction (which combines online and in-person instruction within the same course).

Most participants, 12, had experience with all three types of instruction. Five participants resided on campus, one participant was a distance learner (living more than 100 miles from the institution), and the remainder, 11, lived off campus in the same city as the institution. Many, 15, were employed, and 12 worked in areas related to selected degree programs.

In the following presentation and analysis of data, student perspectives on online course design that contributed to creating an online learning environment, which encouraged students to persist and remain enrolled online at Historically Black Colleges and Universities were assessed. The study was guided by the Social Integration and the Interaction Equivalency Theories. Study research questions were:

1. How does the interaction (student-student, student-faculty, or student-content) with the university system impact persistence in online courses?
2. How does integrating online students academically and socially impact student persistence in online courses?
3. How does the level of commitment to future goals impact student persistence in online courses?

Several themes emerged in response to each research question. Emerging themes for research question 1 were Preferences for Asynchronous Learning, Importance of Student-Instructor Interaction, and Value of Multimedia Resources and Classmate Engagement. For research question 2, identified themes were Importance of Community-Building, Access to Resources and Support, and Engagement and Motivation. Themes emerging for research question 3 were Motivations for Academic Achievement, Hindrances to Persistence, and Goals and Aspirations.

Preferences for Asynchronous Learning

The study findings revealed a strong preference for asynchronous learning among the participants, with 14 out of 17 expressing their favor for this course format. Students appreciated the flexibility of asynchronous learning, allowing them to effectively manage their time and work independently without the constraints of weekly meetings. They felt that meeting with instructors on a weekly basis slowed them down and interfered with their ability to complete assignments and study at their own pace. The ability to access course materials whenever needed was highly valued, enabling participants to review lectures and readings at their convenience. The availability of all course materials at the beginning of the semester was also desired, as it allowed them to complete tasks ahead of time and accommodate their busy schedules, avoiding the stress of meeting weekly responsibilities.

On the other hand, some participants acknowledged the benefits of synchronous learning but found it challenging to remain engaged in online classes, often leading to distraction or even falling asleep during lectures. However, a small number of respondents preferred a weekly schedule due to their poor time management skills and tendency to procrastinate. They found that having weekly due dates for assignments provided a clear structure and helped them stay

motivated and on track. Breaking the course workload into smaller segments reduced their stress and improved their time management, ultimately leading to better performance in class. Importance of Student-Instructor Interaction.

Participants emphasized the importance of student-instructor interaction for a fulfilling and successful educational experience. They highlighted the significance of regular engagement, personalized guidance, and timely feedback from instructors, which they considered crucial for academic success. Establishing consistent and individualized communication channels with instructors was seen as vital for students, with some expressing the need for face-to-face interactions to feel motivated and connected. Having direct access to instructors' contact information and utilizing various communication channels such as email, phone, and online chat platforms was valued by participants, as it provided flexibility and convenience in reaching out to instructors. Interactions with other faculty members were also seen as beneficial in gaining alternative explanations and additional support.

While some participants preferred minimal interaction and valued the flexibility of online courses, others reported higher satisfaction with instructor interaction, particularly those residing on campus or nearby. In-person meetings with instructors were seen as an opportunity to establish a better connection and a sense of community, with participants feeling that meeting face-to-face made the learning experience more personal and connected. Overall, participants believed that student-instructor interaction played a significant role in creating a supportive and engaging online learning environment.

Value of Multimedia Resources and Classmate Engagement

Participants in the study expressed the importance of diverse multimedia resources and engagement with classmates in the online learning experience. The availability of multimedia resources such as digital textbooks, pre-recorded lectures, and external articles was highly valued by the participants. These resources offered flexibility in reviewing materials and enhanced their understanding of course content. While some participants preferred physical textbooks, the majority utilized digital textbooks. Video-recorded lectures were particularly beneficial, as they allowed students to review the material multiple times and improved their academic performance. Engagement with classmates through live Zoom sessions, discussion boards, and external group chats was also considered invaluable. Students found value in interacting with their peers, gaining different perspectives, and staying motivated.

Furthermore, older participants found it beneficial to interact with younger students, as it provided diverse opinions and viewpoints. On the other hand, some participants did not prioritize communication with classmates unless they were particularly knowledgeable about the course. Female participants reported higher rates of communication outside the online course, using personal texting, group chatting on various platforms, or exchanging contact information. In contrast, male participants had decreased levels of interaction with fellow students, often due to a lack of meaningful connections and maturity. One participant even engaged in entertaining himself during online classes by changing clothes, using virtual backgrounds, and attempting to distract others, without anyone noticing.

Importance of Community-Building

The importance of community-building in online courses was highlighted by participants in a study. They found that students who felt connected to their peers and instructors were more likely to engage actively and persist in their academic pursuits. Various activities, such as online discussion forums, group projects, and virtual social events, were identified as effective in fostering a sense of community and enhancing student satisfaction and engagement. Participants shared their experiences, emphasizing the value of community in creating a supportive environment where individuals could share ideas, ask questions, and feel encouraged and supported. They believed that being part of a community helped them stay motivated and engaged in their courses.

Participants employed different approaches to building relationships with their online classmates. Some actively sought interpersonal connections by demonstrating friendliness, openness, and a willingness to reveal weaknesses. They engaged in cooperative efforts and initiated conversations about class work, leading to exchanging contact information and establishing more engaged relationships. Others, however, preferred to focus on independent work and limited interaction with classmates, believing that personal determination and drive were key to their success. Maintaining professional interactions, seeking feedback from previous classmates, and participating in group chats were highlighted as ways to benefit from peer relationships while maintaining a focused mindset. Overall, participants reported favorable outcomes from their interactions with classmates, such as personal development, ethical growth, and the resolution of academic challenges. They valued the support and encouragement offered by their peers and recognized the impact of these interactions on their perspectives and future aspirations.

The study participants also proposed strategies for community-building, such as collaborative group projects and virtual social events. They found that working together on assignments created a stronger sense of connection and camaraderie among students, enhancing the learning experience. Virtual social events, like group Zoom sessions, were seen as enjoyable opportunities to engage with classmates and foster a stronger bond. The role of instructors in promoting community-building activities was emphasized, with participants highlighting the importance of instructors encouraging interaction, providing feedback and support, and creating a positive learning environment. Instructors who actively fostered a sense of community were seen as pivotal in shaping the overall experience of online courses.

Access to Resources and Support

Participants in the study emphasized the importance of access to resources and support in online courses. They highlighted the need for clarity regarding available resources, technological assistance, and support services. Participants recognized the significance of library resources, academic support, and tutoring services in helping them perform well in their online courses. Timely feedback from instructors was also considered crucial for academic success. Participants valued feedback as it provided them with a better understanding of their performance and guidance for improvement. They believed that poor faculty-student interactions could lead to decreased motivation and persistence in online courses. Participants appreciated instructors who were responsive, available to address concerns, and demonstrated interest in their personal growth and success. Informal interactions with instructors, such as

texting and phone calls, were preferred and were seen as a means to increase satisfaction and motivation in online courses.

Engagement and Motivation

Participants in the study emphasized the significance of support in maintaining high levels of engagement and motivation in online courses. Motivated and engaged students were more likely to actively participate in the course and put in increased efforts. Instructional techniques such as gamification, personalized feedback, and collaborative learning were recognized as effective strategies to foster engagement and motivation. Participants praised the gamification feature, which added an element of enjoyment and friendly competition with classmates, leading to increased motivation to complete the course successfully. Personalized feedback from instructors also played a substantial role in maintaining engagement, as it demonstrated attentiveness to individual needs and showed investment in student success.

Collaborative learning was highlighted as another valuable approach to enhance engagement and motivation. Participants reported that relationships with other students influenced their motivation to finish the course. Receiving reminders and motivational messages from peers had a meaningful impact on their persistence. Collaborating with classmates on group projects created a sense of accountability and motivation to strive for excellence. Working with peers also provided valuable opportunities to learn from different perspectives and gain a deeper understanding of the course material. Seeking assistance from classmates when facing challenges further emphasized the importance of having a reliable support system readily available.

While some participants acknowledged the value of peer interactions, the majority attributed their academic performance to intrinsic motivation rather than the relationships formed with fellow students. These individuals exhibited high levels of independence and self-drive, emphasizing that changes in communication with classmates would not affect their personal determination or capability to successfully complete the online course.

The findings further outlined the complexity of motivations that drove participants towards academic achievement. Participants shared intrinsic and extrinsic motivating factors, such as personal growth, career aspirations, and a desire for recognition or validation. Participants further elaborated on struggles encountered during the online course and the impact these hurdles had on progress and ability to stay engaged. Obstacles encompassed a range of factors including time management challenges, external responsibilities, lack of self-discipline, technological issues, and difficulties in adapting to the online learning environment. Participants also shared personalized visions for the future and how these aspirations influenced commitment and motivation in the online course. Goals ranged from specific short-term objectives, such as improving grades or completing assignments, to more long-term aspirations, such as pursuing higher education, career advancement, or making meaningful contributions to the community.

Motivations for Academic Achievement

Participant motivations for academic achievement varied among students, but all recognized motivation as a crucial factor for persistence. Some students were intrinsically motivated to excel in their coursework, while others prioritized successfully completing the course while

managing other life obligations. Several participants aimed to leave a lasting positive impression, focusing on professionalism and building strong relationships. Passion for the subject matter also drove motivation, as students like Amber were dedicated to making a difference in their communities through their chosen fields, such as social work.

For some participants, the primary objective was to positively influence individuals they encountered while pursuing their career paths. India expressed a desire to help others and contribute to community betterment. Many participants reported experiencing intrinsic motivation to persist in online courses, driven by their genuine interest and satisfaction with the topics. Aubrey's motivation stemmed from personal experiences, growing up in a household that could have benefited from the support of a social worker. Jordan, as the first in her family to pursue higher education, recognized the importance of the academic journey and was motivated by her family and newborn child.

Despite varying motivations, participants emphasized the need to remain focused and committed to their academic goals. Joelle aimed to reach both accessible and harder-to-reach individuals through her work as a social worker, and Amber focused on leveraging her strengths to achieve her degree. Regardless of their specific motivations, participants recognized the importance of reinforcing their initial purpose and aspirations to combat distractions and maintain perseverance throughout their online courses.

Hindrances to Persistence

Participants in the study identified several hindrances that affected their persistence in online courses. The most common issue was the limited accessibility of web-based courses, which posed challenges in meeting graduation requirements and led some students to consider institutional withdrawal. The unavailability of required courses, particularly during the summer semester, was a significant concern for students like Katrina, who had to delay graduation. Participants stressed the importance of instructors offering courses online during the summer and viewed it as a crucial advancement to improve accessibility. The importance of strong academic performance was highlighted by many participants, although some aimed for the minimum satisfactory level to complete the course. External commitments such as work, family responsibilities, and childcare hindered their ability to allocate sufficient attention to online studies. Striking a balance between family and coursework proved challenging, and participants like Nichole had to prioritize family needs over academic commitments. Technical issues, including slow internet connections and malfunctioning equipment, were additional challenges that hindered persistence. Participants emphasized the need for institutions to address these hindrances by providing better course availability, schedule flexibility, technical support, and adequate academic and social support systems to facilitate student persistence in the online learning environment.

Goals and Aspirations

The majority of respondents expressed a desire to pursue higher education, driven by financial benefits and the opportunity to make a difference. They recognized the importance of online coursework in achieving their academic and professional goals. Participants found online learning convenient and stress-relieving, allowing them to navigate degree requirements while managing busy schedules and responsibilities. They had ambitious academic goals and planned

to pursue postgraduate studies in Education, aiming to create innovative curricula and make a positive impact.

Many participants were motivated to achieve excellence in their respective fields and leave a lasting impression. They emphasized the importance of building positive relationships and ensuring client satisfaction. Additionally, several participants expressed a desire to positively influence others and contribute to the betterment of their communities. They aimed to foster a supportive environment and enhance the quality of life for those around them. While most participants were willing to enroll in online courses and complete their degree programs online, a few preferred hands-on teachings and would limit their online course enrollment. However, they acknowledged the value of online education in overcoming scheduling conflicts or significant barriers to pursuing their desired degrees. Overall, the participants displayed a strong motivation to succeed academically, make a difference in their chosen fields, and utilize online learning as a flexible and convenient pathway to achieve their goals.

DISCUSSION OF FINDINGS

Effective online course design has been shown to have a positive impact on the persistence of online students. However, the specific factors contributing to student persistence may vary based on the course context and the needs of the learners. The present study aimed to identify student perspectives on the factors contributing to the persistence of online students, such as communication, engagement, and multimedia resources. The availability of diverse multimedia resources, including digital textbooks and pre-recorded lectures, was found to be a crucial element contributing to the sustained engagement of learners in virtual courses. These findings align with previous research that has emphasized the importance of effective course design in promoting the persistence and success of online students (Fischer, 2020). Moreover, the present study found that course format, such as synchronous versus asynchronous delivery, can impact student persistence, with a majority of the participants expressing a preference for an asynchronous course format. This preference for asynchronous learning may be due to the flexibility it offers, which allows students to manage their time effectively and work independently without the constraints of weekly meetings. This sentiment is consistent with previous research that has highlighted the benefits of asynchronous learning in promoting student engagement and persistence (Ching et al., 2018).

In addition, the present study emphasized the importance of communication and engagement in effective online course design, which aligns with the findings of previous research (Ching et al., 2018). Consistent and individualized communication with instructors and peers was found to positively impact student engagement and persistence. Establishing a sense of community in online courses was also found to be crucial in promoting engagement and persistence, with students appreciating when instructors took the time to create a welcoming and supportive environment that made them feel valued as learners. Instructors who created opportunities for interaction, provided feedback and support, and fostered a positive learning environment were identified as key contributors in promoting community-building (Berry, 2017). The participants in this study preferred that instructors actively facilitate community-building efforts in online courses. The students also emphasized the importance of having a clear understanding of what resources are available to them, including technology support and mental health services. Personalized feedback, gamification, and collaborative learning were identified as effective ways to promote engagement and motivation, which in turn could lead to persistence in online

courses (Huang et al., 2019). Participants in the study emphasized the importance of feeling connected and supported to maintain high levels of engagement and motivation, which is consistent with previous research that highlights the importance of social presence and instructor immediacy in promoting student engagement and motivation in online courses (Zumbrun, 2014). Moreover, participants highlighted the value of collaborative learning as a way to enhance engagement and motivation, which is consistent with previous research that has found that collaboration in online courses can lead to higher levels of student engagement, learning, and satisfaction (Xu and Jaggars, 2013).

The research findings also align with previous literature that highlights the importance of motivation for persistence in online courses (Jaggars & Xu, 2016; Rovai & Jordan, 2004). Students who are intrinsically motivated to learn are more likely to persist in online courses than those who are extrinsically motivated (Swofford, 2018). In addition, the finding that students prioritize coursework differently based on personal life circumstances is consistent with previous research on the role of life context in online learning (Wu, 2014). The study also emphasizes the importance of addressing hindrances to persistence, which is in line with previous research that highlights the need for adequate academic and emotional support for online students (Salam et al., 2019; Rovai & Jordan, 2004).

However, the study also offers some unique findings. For instance, it highlights the role of passion for subject matter in motivating students to persist in online courses. The importance of passion for learning has been noted in previous research (Fredricks, Blumenfeld, & Paris, 2004), but this study emphasizes its relevance specifically in the context of online learning. The study also sheds light on the role of aspirations and career goals in motivating students to persist in online courses, which is an important factor to consider when designing online courses and supporting online learners. Table 1 provides the relation of each research question, theme and the related conceptual framework construct from the social interaction theory and/or the interaction equivalency theory.

Table 1

Research Questions	Themes	Conceptual Framework Construct
RQ1. How does the interaction (student-student, student-faculty, or student-content) with the university system impact persistence in online courses?	(1.1) Preferences for Asynchronous Learning, (1.2) Significance of Student-Instructor Interaction, (1.3) Value of Multimedia Resources and Classmate Engagement,	Tinto, 1975, 1993 – experience with the university system [section 3]; Anderson, 2003 – interaction types
RQ2. How does integrating online students academically and socially impact student persistence in online courses?	(2.1) Importance of Community-Building, (2.2) Access to Resources and Support, (2.3) Engagement and Motivation	Tinto, 1975, 1993 – integration, academic and social [section 4]
RQ3. How does the level of commitment to future goals impact student persistence in online courses?	(3.1) Motivations for academic achievement, (3.2) Hindrances to persistence, (3.3) Goals and aspirations.	Tinto, 1975, 1993 – objectives and emerging commitment [section 5]

Recommendations for Future Study

Future research investigations concerning the impact of online course design on the persistence of students at Historically Black Colleges and Universities (HBCUs) must consider the unique obstacles faced by HBCU students in online educational settings. Future research should take into account the intersection of race and technology in online course design and acknowledge historical and current disparities in access to technology for minority populations. It should also aim to devise digital resources that better cater to the requirements of marginalized groups. Subsequent research should conduct a comprehensive needs assessment, gather data through surveys, interviews, and focus groups, and compare persistence rates between students enrolled in online courses and those in traditional in-person courses.

Future investigative studies should utilize a mixed-methods approach to collect both quantitative and qualitative data. Researchers should gather quantitative data pertaining to the rates of student achievement and engagement metrics, and supplement it with qualitative data obtained through extensive interviews and focus groups. This methodology will facilitate a more comprehensive analysis of student experiences in online courses. In order to conduct a comprehensive needs assessment, researchers should investigate by means of surveys, focus groups, and interviews involving both students and faculty members within Historically Black Colleges and Universities (HBCUs) to ascertain the specific determinants that impact the persistence of students in online courses. Researchers should then examine the distinct obstacles and advantages that are unique to students and faculty members at HBCUs. In order to facilitate a comparative analysis, it is recommended that future researchers establish a control group consisting of students who are enrolled in traditional face-to-face courses. The comparative analysis could identify potential factors that lead to higher rates of persistence among online students enrolled at HBCUs.

CONCLUSION

The implications of these findings are noteworthy for HBCUs and educators who aim to create online courses that are capable of engaging and providing support to students in an effective manner. The consideration of asynchronous learning as a viable alternative should be given due attention, particularly for individuals who do not conform to traditional student demographics and who have familial and occupational responsibilities. Furthermore, it is imperative for educators to give precedence to establishing an inclusive and encouraging atmosphere, cultivating engagement between students and instructors, and advancing initiatives that foster a sense of community in virtual learning environments. In order to enrich the educational experience of students, it is recommended that the integration of multimedia resources and interactive engagement with peers be implemented.

The research presented herein constitutes a meaningful contribution towards enhancing the comprehension of student perceptions regarding the structure of online courses, and the consequential effects on the levels of motivation and persistence. The provision of online courses by Historically Black Colleges and Universities (HBCUs) has become more prevalent. Therefore, it is imperative to take into account the distinctive requirements and inclinations of students when designing online learning programs that foster academic achievement. Through consideration of the various factors that impact student motivation and persistence, educators and academic institutions can develop online courses that promote engagement, accessibility, and a favorable learning atmosphere.

The results of this study underscore the substance of attending to variables such as instructional design, communication, and student support resources in order to augment learner drive and persistence in online educational environments. These observations can assist educators and academic institutions in formulating a holistic strategy for online learning that fosters the scholastic success of all students, particularly those belonging to marginalized communities. This study highlights the necessity for ongoing exploration and advancement in the realm of online education to cater to the changing requirements of contemporary learners.

References

Allen, I. E., & Seaman, J. (2015). Grade level: Tracking online education in the United States. Retrieved from <http://onlinelearningconsortium.org/read/survey-reports/>

Almara'beh, H., Amer, E. F., & Sulieman, A. (2015). The effectiveness of multimedia learning tools in education. *International Journal*, 5(12).

Alston, S. T., Moore, C. S., & Thomas, M. (2017). Strategies for enhancing online teaching in social work education. *Journal of Human Behavior in the Social Environment*, 27(5), 412-423.

Anderson, T. (2003). Getting the mix right again: An updated and theoretical rationale for interaction. *International Review of Research in Open and Distance Learning*, 4(2). <http://dx.doi.org/10.19173/irrodl.v4i2.149>

Berry, S. (2017). Building community in online doctoral classrooms: Instructor practices that support community. *Online Learning*, 21(2), n2.

Bollinger, D.U., & Wasilik, O. (2009, May). Factors influencing faculty satisfaction with online teaching and learning in higher education. *Distance Education*, 30(1), 103-116

Boston, W. E., Ice, P., & Burgess, M. (2012). Assessing student retention in online learning environments: A longitudinal study. *Online Journal of Distance Learning Administration*, 15(2). Retrieved from http://www.westga.edu/~distance/ojdla/summer152/boston_ice_burgess152.html

Boston, W. E., Ice, P., & Gibson, A. M. (2011). Comprehensive assessment of student retention in online learning environments. *Online Journal of Distance Learning Administration*, 14(1). Retrieved from http://www.westga.edu/~distance/ojdla/spring141/boston_ice_gibson141.html

Budash, D., & Shaw, M. (2017). Persistence in an online master's degree program: Perceptions of students and faculty. *Online Journal of Distance Learning Administration*, 20(3).

Ching, Y. H., Hsu, Y. C., & Baldwin, S. (2018). Becoming an online teacher: an analysis of prospective online instructors' reflections. *Journal of Interactive Learning Research*, 29(2), 145-168.

Chu, A.M.; Liu, C.K.; So, M.K.; Lam, B.S. (2021) Factors for sustainable online learning in higher education during the COVID-19 pandemic. *Sustainability*, 13, 5038.

Clark, C., Strudler, N., & Grove, K. (2015). Comparing asynchronous and synchronous video vs. textbased discussions in an online teacher education course. *Online Learning*, 19(3), 48- 69

Cobcroft, R.S.; Towers, S.; Smith, J.; Bruns, A. (2006) Mobile learning in review: Opportunities and challenges for learners, teachers, and institutions. In *Proceedings of the Online Learning and Teaching (OLT) Conference*, Brisbane, Australia, 26 September 2006; Queensland University of Technology: Brisbane, Australia; pp. 21-30.

Cochran, J. D., Campbell, S. M., Baker, H. M., & Leeds, E. M. (2013). The role of student characteristics in predicting retention in online courses. *Research in Higher Education*, 55(1), 27-48. doi:10.1007/s11162-013-9305-8

- Crawford, C.M. (2018) Teacher Presence. In *Encyclopedia of Information Science and Technology*, 4th ed.; IGI Global: Hershey, PA, USA,
- Creswell (2005). *Educational Research: Planning, Conducting and Evaluating Quantitative and Qualitative Research*. Upper Saddle River, NJ: Merill Prentice Hall
- Creswell, J. W. (2007). *Qualitative inquiry and research design: Choosing among five approaches* (2nd ed.). Sage Publications, Inc.
- Creswell, J. W. (2009). Mapping the field of mixed methods research. *Journal of mixed methods research*, 3(2), 95-108.
- Croxtan, S., & Appleton, H. (2014). The role of participative approaches in increasing the technical capacity and technology choice of rural communities.
- Davis, L. A. (2006). Success against odds: The HBCU experience. In F. W. Hare (Ed.), *How Black colleges empower black students: Lessons for higher education* (pp. 43–50). Sterling, VA: Stylus Publishing.
- Delnoij, L. E., Dirkx, K. J., Janssen, J. P., and Martens, R. L. (2020). Predicting and resolving non-completion in higher (online) education—a literature review. *Educ. Res. Rev.* 29:100313. doi: 10.1016/j.edurev.2020.100313
- Di Paulo, T.; Wakefield, J.S.; Mills, L.A.; Baker, L. (2017) Lights, camera, action: Facilitating the design and production of effective instructional videos. *TechTrends*, 61, 452–460.
- Ely, M. (1991). *Doing qualitative research: Circles within circles*. London: Falmer Press.
- Fatani, T. H. (2020). Student satisfaction with videoconferencing teaching quality during the COVID-19 pandemic. *BMC Medical Education*, 20(1). <https://doi.org/10.1186/s12909-020-02310-2>
- Fetzner, M. (2013). What Do Unsuccessful Online Students Want Us to Know? *Journal of Asynchronous Learning Networks*, 17(1), 13-27.
- Figlio, D. N., Rush, M., & Yin, L. (2013). Is it live or is it internet? Experimental estimates of the effects of online instruction on student learning. *Journal of Labor Economics*, 31(4), 763–784. Retrieved from http://www.jstor.org/stable/10.1086/669930?seq=1#page_scan_tab_contents
- Fischer, C., Xu, D., Rodriguez, F., Denaro, K., & Warschauer, M. (2020). Effects of course modality in summer session: Enrollment patterns and student performance in face-to-face and online classes. *The Internet and higher education*, 45, 100710.
- Fredricks, J. A., Blumenfeld, P. C., & Paris, A. H. (2004). School engagement: Potential of the concept, state of the evidence. *Review of educational research*, 74(1), 59-109.
- Gilpin, S. (2020). A Framework for Fostering Emerging Online Learner Persistence: The Role of Asynchronous and Synchronous Discussions. *Journal of Teaching and Learning*, 14(1), 29-43.
- Goroshit, M. (2018). Academic procrastination and academic performance: An initial basis for intervention. *Journal of Prevention & Intervention in the Community*, 46(2), 131-142. <https://doi.org/10.1080/10852352.2016.1198157>
- Graham, C. D., & Massyn, L. (2019). Interaction equivalency theorem: Towards interaction support of non-traditional doctoral students. *International Journal of Doctoral Studies*, 14, 187.
- Greenland, S. J., & Moore, C. (2014). Patterns of student enrolment and attrition in Australian open access online education: A preliminary case study. *Open Praxis*, 6(1), 45–54. <https://search.informit.org/doi/10.3316/informit.935906696497074>

Hachey, A. C., Wladis, C. W., & Conway, K. M. (2012). Is the second time the charm? Investigating trends in online re-enrollment, retention, and success. *Journal of Educators Online*, 9(1), 1-25

Haley, K. N. (2010). Wired and tired: The cool and the agony of teaching online. *Social Work Review*, 1, 58-63.

Hart, C. (2012). Factors associated with student persistence in an online program of study: A review of the literature. *Journal of Interactive Online Learning*, 11(1), 19-42.

Havice, P.A.; Davis, T.T.; Foxx, K.W.; Havice, W.L. (2010) The impact of rich media presentations on a distributed learning environment: Engagement and satisfaction of undergraduate students. *Q. Rev. Distance Educ.* 11, 53-60.

Haydarov, R., Moxley, V., & Anderson, D. (2013). Counting chickens before they are hatched: An examination of student retention, graduation, attrition, and dropout measurement validity in an online master's environment. *Journal of College Student Retention*, 14(4), 429-449. doi:10.2190/CS.14.4.a

Herbert, M. (2006). Staying the course: A study in online student satisfaction and retention. *Online Journal of Distance Learning Administration*, 9(4). Retrieved from <http://www.westga.edu/%7Edistance/ojdl/winter94/herbert94.htm>

Herron, J. F., & Wright, V. H. (2006). Assessment in online learning: Are student really learning? In V. H. Wright, C. S. Sunal, & E. K. Wilson (Eds.), *Research on enhancing the interactivity of online learning* (pp. 45-64). Greenwich, CT: Information Age Publishing

Hoic-Bozic, N., Mornar, V., & Boticki, I. (2009). A blended learning approach to course design and implementation. *IEEE Transactions on Education*, 52(1), 19-30. <https://doi.org/10.1109/te.2007.914945>

Hollenbeck, C. R., Mason, C. H., & Song, J. H. (2011). Enhancing student learning in marketing courses: An exploration of fundamental principles for website platforms. *Journal of Marketing Education*, 33(2), 171-182. doi:10.1177/0273475311410850

Huang, B., Hwang, G. J., Hew, K. F., & Warning, P. (2019). Effects of gamification on students' online interactive patterns and peer-feedback. *Distance Education*, 40(3), 350-379.

Ice, P., Gibson, A. M., Boston, W., and Becher, D. (2012). An exploration of differences between community of inquiry indicators in low and high disenrollment online courses. *J. Asynchron. Learn. Netw.* 15, 44-69. doi: 10.24059/olj.v15i2.196

Ilgaz, Hale & Gulbahar, Yasemin. (2015). A Snapshot of Online Learners: e-Readiness, e- Satisfaction and Expectations. *International Review of Research in Open and Distributed Learning*. International Review of Research in Open and Distributed Learning. 16. 171- 178.

Ivankova, N. V., & Stick, S. L. (2007). Students' persistence in a distributed doctoral program in educational leadership in higher education: A mixed methods study. *Research in Higher Education*, 48(1), 93-135. doi:10.1007/s11162-006-9025-4

Jaggars, S. S., & Xu, D. (2016). How do online course design features influence student performance. *Computers & Education*, 95, 270-284.

Joksimović, S., Gašević, D., Kovanović, V., Riecke, B. E., & Hatala, M. (2015). Social presence in online discussions as a process predictor of academic performance. *Journal of Computer Assisted Learning*, 31(6), 638-654. <https://doi.org/10.1111/jcal.12107>

Jones, P.; Naugle, K.; Kolloff, M. (2008) Teacher presence: Using introductory videos in hybrid and online courses. *Learn. Solut.* Available online: Learningsolutionsmag.com (accessed on 10 March 2022).

- King, S.B. (2014) Graduate student perceptions of the use of online course tools to support engagement. *Int. J. Scholarsh. Teach. Learn.* 8, 1–18.
- Kostolanský, L., Šebo, M., & Tomková, V. (2019). The preparation of teachers in the field of multimedia education. In *EDULEARN19: 11th annual International Conference on Education and New Learning Technologies* (pp. 1477–1483).
- Kuo, Y.-C., Walker, A. E., Schroder, K. E. E., & Belland, B. R. (2014). Interaction, Internet self- efficacy, and self-regulated learning as predictors of student satisfaction in online education courses. *The Internet and Higher Education*, 20, 35-50. doi: 10.1016/j.iheduc.2013.10.001
- James, S., Swan, K., & Daston, C. (2016). Retention, progression, and the taking of online courses. *Online Learning*, 20(2). Retrieved from <http://onlinelearningconsortium.org/>
- Lee, K. (2017). Rethinking the accessibility of online higher education: a historical review. *Internet High. Educ.* 33, 15–23. doi: 10.1016/j.iheduc.2017.01.00
- Lee, Y., & Choi, J. (2011). A review of online course dropout research: Implications for practice and future research. *Educational Technology Research and Development*, 59(5), 593- 618. <https://doi.org/10.1007/s11423-010-9177-y>
- Leeds, E. M., Campbell, S. M., Baker, H., Ali, R., Brawley, D., & Crisp, J. (2013). The impact of student retention strategies: An empirical study. *International Journal of Management in Education*, 7(1), 22–43. <https://doi.org/10.1504/IJMIE.2013.050812>
- Liaw, S.-S. (2008). Investigating students' perceived satisfaction, behavioral intention, and effectiveness of e-learning: A case study of the Blackboard System. *Computers & Education*, 51(2), 864–873. <https://doi.org/10.1016/j.compedu.2007.09.005>
- Liu, S. Y., Gomez, J., & Yen, C. J. (2009). Community college online course retention and final grade: Predictability of social presence. *Journal of Interactive Online Learning*, 8(2), 165–182.
- Liu, X., Magjuka, R. J., Bonk, C. J., & Lee, S. H. (2007). Does sense of community matter? An examination of participants' perceptions of building learning communities in online courses. *Quarterly Review of Distance Education*, 8(1), 9.
- Marshall, C., Rossman, G. B., & Blanco, G. L. (2022). *Designing qualitative research*. SAGE Publishing, Inc.
- Martin, F., & Bolliger, D. U. (2018). Engagement matters: Student perceptions on the importance of engagement strategies in the online learning environment. *Online Learning*, 22(1), 205–222.
- Miyazoe, T., & Anderson, T. (2015). Interaction equivalency in the OER and informal learning era. *European Journal of Open, Distance and E-learning*, 18(2).
- Miyazoe, T., & Anderson, T. (2011). The interaction equivalency theorem: Research potential and its application to teaching. *The 27th Annual Distance Teaching & Learning*.
- Miyazoe, T., & Anderson, T. (2010). Learning outcomes and students' perceptions of online writing: Simultaneous implementation of a forum, blog, and wiki in an EFL blended learning setting. *System*, 38(2), 185–199.
- Moore, D. (2014). An investigation of the attrition of African-American students in an online undergraduate program (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (UMI No. 3626928)
- Moore, J. C., & Fetzner, M. J. (2019). The road to retention: A closer look at institutions that achieve high course completion rates. *Online Learning*, 13(3). <https://doi.org/10.24059/olj.v13i3.1650>

Moore, M. G. (1989). Three types of interaction. *American Journal of Distance Education*, 3(2), 1-7.
<https://doi.org/10.1080/08923648909526659>

Moreno-Marcos, P. M., Muñoz-Merino, P. J., Alario-Hoyos, C., & Delgado Kloos, C. (2020). Re-defining, analyzing and predicting persistence using student events in onlinelearning. *Applied Sciences*, 10(5), 1722.

Morris, L. V., Finnegan, C., & Wu, S.-S. (2005). Tracking student behavior, persistence, and achievement in online courses. *The Internet and Higher Education*, 8(3), 221-231. doi: 10.1016/j.iheduc.2005.06.009

Muljana, P. S., and Luo, T. (2019). Factors contributing to student retention in online learning and recommended strategies for improvement: a systematic literature review. *J. Inform. Technol. Educ. Res.* 18, 19–57. doi: 10.28945/4182

Murray, M.C., Pérez, J., Geist, D. & Hedrick, A. (2012). Student Interaction with Online Course Content: Build It and They Might Come. *Journal of Information Technology Education: Research*, 11(1), 125-140. Informing Science Institute. Retrieved July 29, 2022 from <https://www.learntechlib.org/p/111496/>.

Northrup, P. T. (2009). Online learners' preferences for interaction. In A. Oerllana, T. L. Hudgins, & M Simonson (Eds.), *The perfect online course: Best practices for designing and teaching* (pp. 463-473).

Information Age.Oh, E. G., & Kim, H. S. (2016). Understanding Cognitive Engagement in Online Discussion: Use of a Scaffolded, Audio-based Argumentation Activity. *International Review of Research in Open and Distributed Learning*, 17(5), 28–48. Retrieved from <http://www.irrodl.org/index.php/irrodl/article/view/2456>

Neuman, S. B., & Dickinson, D. K. (Eds.). (2003). *Handbook of early literacy research*.

Paul, J., & Jefferson, F. (2019). A comparative analysis of student performance in an online vs. face-to-face environmental science course from 2009 to 2016. *Frontiers in Computer Science*, 1.
<https://doi.org/10.3389/fcomp.2019.00007>

Rahim, N. B. (2020). Improving student engagement and behavioural outcomes via persistence among distance learners. *Akademika*, 90(2), 91-102.

Roby, T., Ashe, S., Singh, N., & Clark, C. (2013). Shaping the online experience: How administrators can influence student and instructor perceptions through policy and practice. *Internet and Higher Education*, 17, 29- 37.doi: 10.1016/j.iheduc.2012.09.004

Rovai, A. P. (2003). In search of higher persistence rates in distance education online programs. *The Internet and Higher Education*, 6(1), 1-16. doi:10.1016/S1096-7516(02)00158-6

Rovai, A. P., & Jordan, H. M. (2004). Blended learning and sense of community: A comparative analysis with traditional and fully online graduate courses. *International Review of Research in Open and Distributed Learning*, 5(2), 1-13.

Salam, M., Awang Iskandar, D. N., Ibrahim, D. H. A., & Farooq, M. S. (2019). Service learning in higher education: A systematic literature review. *Asia Pacific Education Review*, 20, 573-593.

Salvo, S. G., Shelton, K., & Welch, B. (2019). African American males learning online: Promoting academic achievement in higher education. *Online Learning*, 23(1), 22-36.

Seidman, I. (2019). *Interviewing as qualitative research* (5th ed.).

Simonson, M., Smaldino, S., Albright, M., & Zvacek, S. (2012). *Teaching and learning at a distance: Foundations of distance education* (5th ed.) Boston, MA: Pearson.

Sitzmann, T., Kraiger, K., Stewart, D., and Wisher, R. (2006). The comparative effectiveness of web-based and classroom instruction: a meta-analysis. *Pers. Psychol.* 59, 623–664. doi: 10.1111/j.1744-6570.2006. 00049.x

Skylar, A. A. (2009). A comparison of asynchronous online text-based lectures and synchronous interactive web conferencing lectures. *Issues in Teacher Education*, 18(2), 69-84

Strauss & Corbin (1990). *Grounded Theory Research Procedures Canons and Evaluative Criteria*. Qualitative Sociology. Vol. 13 No. 1.

Stone, C., & Springer, M. (2019). Interactivity, connectedness and 'teacher-presence': Engaging and retaining students online. *Australian Journal of Adult Learning*, 59(2), 146-169.

Swafford, M. (2018). The relationship between motivation and online self-regulated learning. *Journal of human sciences and extension*, 6(3), 6.

Thurmond, V. A., Wambach, K., Connors, H. R., & Frey, B. B. (2002). Evaluation of student satisfaction: Determining the impact of a web-based environment by controlling for student characteristics. *The American journal of distance education*, 16(3), 169-190.

Tello, S. F. (2007). An analysis of student persistence in online education. *International Journal of Information and Communication Technology Education*, 3(3), 47-62. doi:10.4018/jicte.2007070105

Tinto, V. (1975). Dropout from higher education: a theoretical synthesis of recent research. *Review of Educational Research*, 45(1), 89-125. <http://dx.doi.org/10.3102/00346543045001089>

Tinto, V. (1997). Classrooms as communities. Exploring the educational character of student persistence. *Journal of higher education*, 68(6), 599-623. <http://dx.doi.org/10.2307/2959965>

Tinto, V. (1993). *Leaving college: Rethinking the causes and cures of student attrition* (2nd ed.). Chicago, IL: The University of Chicago Press

Tinto, V. (2006). Research and practice of student retention: what next? *Journal of College student retention*, 8(1). 1-19. <http://dx.doi.org/10.2190/4YNU-4TMB-22DJ-AN4W>

Tinto V. (2022) Increasing Student Persistence: Wanting and Doing. In: Huijser H., Kek M.Y.C.A., Padró F.F. (eds) *Student Support Services*. University Development and Administration. Springer, Singapore. https://doi.org/10.1007/978-981-16-5852-5_33

U.S. Department of Education, National Center for Education Statistics. (2011). Distance education at degree-granting postsecondary institutions: 2000–2001 (NCES 2003-017). Washington, DC. Retrieved from <https://nces.ed.gov/pubs2003/2003017.pdf>

Vagg, T., Balta, J. Y., Bolger, A., & Lone, M. (2020). Multimedia in education: what do the students think?. *Health Professions Education*, 6(3), 325-333.

Vai, M., & Sosulski, K. (2016). *Essentials of online course design: A standards-based guide*. Routledge. <https://doi.org/10.4324/9781315770901>

Wilson, D., & Allen, D. (2011). Success rate of online versus traditional college students. *Research in Higher Education Journal*, 14, 1-9.

Wu, R. (2014). Feedback in distance education: A content analysis of Distance Education: An International Journal, 1980-2013 (Doctoral dissertation, Virginia Polytechnic Institute and State University).

Xavier, M., and Meneses, J. (2020). Dropout in Online Higher Education: A Scoping Review From 2014 to 2018. Barcelona: ELearn Center, Universitat Oberta de Catalunya

Xu, D., & Jaggars, S. S. (2013). The impact of online learning on students' course outcomes: Evidence from a large community and technical college system. *Economics of Education Review*, 37, 46-57.

Xu, D., & Jaggars, S. S. (2014). Performance gaps between online and face-to-face courses: Differences across types of students and academic subject areas. *Journal of Higher Education*, 85(5), 633-659.
doi:10.1353/jhe.2014.0028

Yin, Robert K (2014). *Case Study Research Design and Methods* (5th ed.). Thousand Oaks, CA: Sage. 282 pages.

Zhan, Z., & Mei, H. (2013). Academic self-concept and social presence in face-to-face and online learning: Perceptions and effects on students' learning achievement and satisfaction across environments. *Computers & Education*, 69, 131-138. <https://doi.org/10.1016/j.compedu.2013.07.002>

Zimmerman, T. D. (2012). Exploring learner to content interaction as a success factor in online courses. *Int. Rev. Res. Open Dist. Learn.* 13, 152-165. doi: 10.19173/irrodl.v13i4.1302

Zumbrunn, S., McKim, C., Buhs, E., & Hawley, L. R. (2014). Support, belonging, motivation, and engagement in the college classroom: A mixed method study. *Instructional Science*, 42, 661-684.