

WHY DO SOME STAY WHILE OTHERS LEAVE? A CASE STUDY OF ONLINE BSC MANAGEMENT STUDIES AT THE UWI

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Abstract: *Using a case study design, this research examined students' programme persistence at an online tertiary institution in the Caribbean. More specifically, the study sought to determine the effect of past learning experiences, transactional distance, and technological and pedagogical readiness on the likelihood that students would persist toward completing their programme of study. The sample comprised (n = 106) students enrolled in an undergraduate Management Studies online programme at an online university. The results revealed that access to the internet and technological readiness are likely to have a strong influence on student persistence in online learning environments. The study is significant as it provides much needed analysis of factors which affect the persistence of Caribbean online learners. The findings from this study may be used to articulate policies to address concerns about online student persistence through support services, faculty training, course design, and orientation practices.*

Keywords: *Caribbean online education, learner persistence, technological readiness, transactional distance*

INTRODUCTION

International trends continue to show a marked increase in the number of learners pursuing tertiary education programmes via online education (Christensen et al., 2011; Miller et al., 2020). This increase has been amplified due to the COVID-19 pandemic (Li & Lalani, 2020) which Miller et al. note has augmented online education student numbers some tenfold. However, prior to the onset of the COVID-19 pandemic, there had been rapid growth of purely online institutions as well as a significant increase in the number of traditional tertiary education institutions offering online programmes and courses (Bates, 2018).

Before the ubiquitous growth of online education, countries in the Anglophone Caribbean were generally recipients rather than providers of this form of education. Although the status

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quo remains largely the same, recognizing the flexibility that is afforded to learners by online education, many national and regional tertiary level institutions (including The University of the West Indies [The UWI], and national universities, such as the University of Technology, and University College of the Caribbean) have started to deliver online programmes and courses.

The growing interest in this form of distance learning at the regional level is evident in the exponential increase in the number of students enrolled in online programmes within the last decade. At The UWI, where this research was conducted, the number of students enrolled in online programmes significantly increased from 3,648 in the Academic Year (AY) 2007/2008 to 6,787 in the AY 2018/2019. While these figures augur well for distance learning in the region, there is a concern that despite this striking increase in student enrolment, many online learners fail to complete their programmes (Stone et al., 2019). This trend of non-completion is also reflected at The UWI where, according to a study conducted by Warrican et al. (2014), the attrition rate was approximately 25%.

Several extra-regional studies have been conducted that consider the factors which contribute to online learner attrition. However, the Caribbean-specific studies were centred around factors affecting attrition in specific courses (Warrican et al., 2014; Yusuf-Khalil, 2006). The current study is more holistic in nature. Its main aim is to determine the influence of past learning socialization, transactional distance, and pedagogical and technological readiness on the persistence of Caribbean online learners in their undergraduate studies.

Statement of the Problem

Against the advancements in online education, institutions like The University of the West Indies have viewed online learning as one mechanism to expand access to a wider cross section of students. Students come with differing pedagogical exposure, primarily based on a didactic orientation, varying levels of pedagogical and technological readiness, and with an educational socialization built on face-to-face teaching and learning. Even though much research has been conducted into transactional distance, and student readiness for online learning, what is still unknown is the impact these factors have on the persistence of Caribbean online students.

The primary purpose of the study, therefore, is to determine the extent to which the persistence of Caribbean online students is affected by their past learning experiences, transactional distance, and pedagogical and technological readiness. This is important as the literature shows that transactional distance and technological and pedagogical readiness are

Why Do Some Stay While Others Leave?

key factors in the persistence decisions of online learners. Additionally, the literature shows a strong correlation between didactic education and non-persistence.

To understand the role that these variables play in the persistence of Caribbean online learners, this study asked the following questions:

1. To what extent is there a relationship between Caribbean online students' past learning experiences and their current academic achievement?
2. To what extent are Caribbean online students experiencing transactional distance?
3. To what extent is the persistence of Caribbean online students affected by their pedagogical and technological readiness?
4. What factors predict the likelihood that Caribbean online learners would persist with their online degree?

LITERATURE REVIEW

The failure of some online learners to complete their studies, particularly in higher education, has resulted in a growing body of research which has sought to understand the online environment, attributes of learners, and factors that contribute to persistence. Learner persistence is somewhat difficult to define. Its definition is determined by the context (Moreno-Marcos et al., 2020), ranging from continuing a degree to completion (Kuh et al., 2008; Tinto, 2017), to a course perspective in which case it is considered as the interaction with the course content for at least one week (Whitehall et al., 2017). Further, Crues et al. (2018) defined persistence as low, medium, or high depending on the number of weeks the learner spent in the online course environment. For this study, persistent learners are regarded as those students who enrolled in Semester 1 of the academic year following their initial enrolment in the previous academic year (Kimbark et al., 2017).

In their quest to understand student online persistence, several authors have underscored the importance of gaining additional insights into the online learning environment from the learner's perspective. They emphasize factors such as student satisfaction (Rios et al., 2018); student self-determination (Pugh, 2019); student self-efficacy (Peechapol et al., 2018); students as digital immigrants (Prensky, 2001; Salazar-Marquez, 2017); how students learn;

student connectivism (Siemens, 2004); and family, work, and personal responsibilities (Ilgaz & Gulbahar, 2015; Greenland & Moore, 2014; Markle, 2015); and role strain.

Additionally, other research has considered the institutional factors that may contribute to learner persistence, including: transactional distance and technological challenges (Yoo Joo & Huang, 2013), the quality of material and delivery (Devlin & McKay, 2016); facilitation of student engagement (Alman et al., 2012; Eliasquevici, et al., 2017; Lambrinidis, 2014; Pinchbeck & Heaney, 2017; Shah & Cheng, 2018; Vincenzes & Drew, 2017); facilitation of learning (Garratt-Reed et al., 2016; Wuellner, 2013); and course design (Hammond & Shoemaker, 2014; Kauffman, 2015; Pittenger & Doering, 2010).

A discussion of student persistence in the online learning environment necessitates some focus on the notion of transactional distance. First proposed by Moore (1993), transactional distance refers to the pedagogical and psychological distance felt by students in online learning environments. It is not related to the physical separation between the tutors and the learners, and among learners, but has to do with how the separation is handled in relation to the interactions amongst the various persons, and the course design.

Moore (1993) described transactional distance as the relationship between student and content, student and student, and student and teacher. He noted that the effectiveness, appropriateness, and timeliness of these various forms of interaction either hindered or supported student persistence in distance learning (Huang et al., 2016). Several authors have gone on to add to and/or critique Moore's theory including Alhih et al. (2017) who noted that interaction should also include the "... student-medium (interface) interaction" (p. 2735). However, this study, while appreciating the importance of the student-medium interface, restricts that consideration to technological readiness and focused interaction around student and student and student and teacher.

Given the historical learning orientation of Caribbean learners – teacher-led and didactic in nature - (World Bank, 2005), these learners may be more prone to experience transactional distance. This may be problematic, as in traditional Caribbean classrooms, learners are not usually active participants. On the other hand, in the online classroom, which usually follows a constructivist learning paradigm, learners are required to actively engage with the curriculum (Hu & Li, 2017) through peer to peer, learner to facilitator, and learner to content activities. Therefore, this lack of pedagogical orientation may affect the readiness of learners for online education.

Why Do Some Stay While Others Leave?

The notion of student readiness for online learning was first articulated by Warner et al. (1998). Readiness for online learning consists of three main components: acceptance that learning is not restricted to face-to-face ability; comfort with the use of technology; an aptitude to learn independently (Tang & Lim, 2013). Hence, readiness for online learning consists of pedagogical and technological inter-related components. It is no surprise, therefore, that readiness for online learning may significantly impact learner persistence (Cigdem & Ozturk, 2016).

Pedagogical readiness for online learning may go against one of the central tenets of the traditional teaching and learning process, that is, speaking and listening, components which are natural and readily practised in most other situations outside the online learning environment (Peters, 1998). Peters also noted that speaking and listening are “not only well known but also highly internalized by everyone. It is a universal cultural pattern” (p. 3). In other words, the face-to-face learning environment mimics life and, as such, it is relatively easy to master. Pedagogical readiness also emphasizes the ability of students to be independent learners, to understand their learning preferences, to be self-motivated, and prepared to work outside the traditional walls of the classroom (Hung et al., 2010).

Even with the many advances in technology and the availability of the internet, there is still a large number of people in the world, and indeed the Caribbean, who are not technologically ready for online learning. The reasons for their lack of readiness include having either no access and/or limited access to reliable internet service (Moore et al., 2018) and/or computers or other forms of hardware. The problem of reliable internet access is currently exacerbated due to the COVID-19 pandemic (McKie, 2020). Further, some online learners have little or no technological competencies, for example, typing skills (Miller et al., 2020), which affect their achievement in the online environment.

Technical readiness generally consists of three components: (1) technology knowledge; for example, faculty members' and students' skills in the use of computers tools, and internet-related technologies and techniques; (2) technology access, that is, availability of computers and internet access in their homes and/or work environments; (3) existence of infrastructure that covers technical support, tools, and resources necessary for students to begin learning online (Mantilla & Lewis, 2012). Therefore, technological readiness is twofold, relating to access to reliable internet, computer with appropriate hardware and software capabilities; *and* ability to effectively use the relevant software and hardware.

The challenge of transforming the Caribbean learner into an effective online learner was first articulated by Yusuf-Khalil (2006) in her review of a gender and development course offered online by The UWI. She found that facilitators were unable to create an effective learner-centred learning environment as learners were negatively affected by their prior learning socialization. Yusuf-Khalil (2006) noted that this was due to the “banking concept” of education. The banking concept of education, a term first used by Freire (1970), views the teacher as the distiller of knowledge, and the student as the willing recipient of knowledge. This is in direct opposition to the constructivist theory that permeates the practice of distance online learning. As such, the past learning experiences of Caribbean online learners, with their over-reliance on the teacher, can be problematic in view of the shift in responsibility for learning from the teacher to the student in the online environment. This new reality can pose a threat in terms of students’ pedagogical readiness for online learning and may also exacerbate their experiences of transactional distance, which in turn can affect their persistence.

Aside from Yusuf-Khalil (2006), other Caribbean-specific research has been conducted into online learning. However, they have been mainly centred around learner perceptions and attitudes to online learning (Barclay et al., 2018; Kerr, 2015); engaging digital natives (Veira et al., 2014); first year learner perceptions of student support (Hunte, 2012); utility of online learning to higher education (Boisselle, 2014); and predictors of student achievement in specific courses (Warrican et al., 2014). To date, there is a paucity of regional research that has considered the influence of past learning experiences, transactional distance and readiness (pedagogical and technological) for online learning on the persistence of online learners in the Caribbean.

METHODOLOGY

The study used the “single-case”, case study design. The case study design was chosen as it allowed for an exploratory, unique, focused analysis of the complexity of the three variables: past learning experiences, transactional distance, and readiness, namely pedagogical and technological, for online study. Although it is mostly associated with qualitative research, Willis (2014) posits that the case study design should be considered as trans-paradigmatic.

Description of the Sample

The study targeted the entire class of 341 BSc Management students enrolled during Semester 1, 2011/2012. Of the 341 students, 106 completed and returned Survey Instruments One and Two. This reflects a 31.1% response rate. Female respondents

Why Do Some Stay While Others Leave?

accounted for the majority (85%) of the sample; this was consistent with the gender distribution of the 2010/2011 BSc Management Studies cohort, which had a gender ratio of 72 (21.1%) males and 269 (78.9%) females. The most populous age group for the sample was 21-32 (n = 57), followed by the 33-44 (n = 37) age group, which accounted for 53.8 per cent and 34.9 per cent of the sample, respectively.

Eighty-four per cent of the respondents reported that they were employed while 8.5% indicated that they were unemployed. There was no cohort-specific comparable data. However, the literature (for example, Moore & Greenland, 2017) does indicate that the majority of online students are usually employed. In terms of marital status, among the sample, 61 (57.5%) respondents reported that they were married; 36 (34.0%) indicated that they were single, while 9 (8.5%) persons selected 'Other'. This is in keeping with the literature (for example, Moore & Greenland, 2017) which indicates that the majority of people who opted for online are married with other personal and family commitments. The sample population comprised 45 (42.5%) students from the Republic of Trinidad and Tobago, 29 (27.4%) students from Jamaica, with the remaining 32 (30.1%) respondents coming from eleven countries "Barbados and the OECS" (although this data included one non-OECS country, namely the Cayman Islands).

Data Collection

The data collection was divided into four phases. Phase 1 was used to identify the programme to be investigated. I conducted an analysis of the courses which The UWI Open Campus had in common with the physical campuses of the university. I used the course codes as the mechanism for determining commonality. The initial research showed that The UWI Open Campus had 15 courses in common with the physical campuses of the university, all of which were in the BSc Management Studies programme.

Phase 2 targeted the learners within the first four (4) weeks of commencing studies in the online BSc Management Studies programme. A survey instrument was distributed to all first year, Semester 1 students. This instrument sought to identify the respondents' past learning experiences, technological and pedagogical readiness and expectation of the online environment. Desk analysis was conducted of the pass and failure rates of students for Semester 1, 2010/2011 in order to identify their achievement on their courses taken.

Phase 3 targeted the respondents who had completed the Phase 2 survey. It commenced with a desk analysis of the target students' pass and failure rates for Semester 2, 2010/2011.

During this phase, the pass and failure rates for the academic year were also collated. The Phase 3 instrument was distributed 4 weeks into Semester 1, 2011/2012 to all Phase 2 students. This instrument sought to collect data on their experiences in the online environment. The Phase 4 instrument targeted students from the programme cohort who had failed to persist with the programme. It was administered in week 8 of Semester 1, 2011/2012.

Instruments

The online questionnaire consisted of Likert-type questions and open-ended questions and was used as the main data collection tool. The open-ended questions allowed for qualitative analysis using the identification of themes, although some of the data was also quantified. The quantitative components were analysed using the Predictive Analytics Software (PASW) 19.

Cronbach's alpha reliability coefficient (Cronbach, 1951) was used to measure internal consistency reliability due to the multiple questionnaire items (Bonnet & Wright, 2015) of the three surveys. George and Mallery (2003) provide the following rules of thumb for Cronbach Alpha: ">.9 – Excellent, >.8 – Good, >.7 – Acceptable, >.6 – Questionable, >.5 – Poor, and <.5 – Unacceptable" (p. 231). The Cronbach alphas for the three surveys were .701, .857 and .704 respectively, indicating that the subscales had acceptable internal consistency.

RESULTS

Research Question 1: To what extent is there a relationship between Caribbean online students' past learning experiences and their current academic achievement?

To better understand the impact that past learning has on online learners, respondents were asked to describe and compare their past learning to their current online experience. Five (4.7%) respondents indicated that they paid attention to the feedback provided by the teachers. Further, findings showed that 60 per cent of the respondents reported experiencing mostly didactic teaching and learning, while 40 per cent experienced mostly non-didactic. What makes this finding particularly interesting is that although seventy-seven (72.6%) respondents reported regularly participating in group work, they reported that the learning objectives were not made clear. Additionally, 50 (47.2%) reported that they did not actually know the learning objectives. The study further found that seventy-five (70.8%) respondents considered the online classroom activities to be similar to the majority of their

Why Do Some Stay While Others Leave?

past learning activities, and seventy-one (67.0%) reported that neither questioning nor engaging with teachers was frequently practised.

When the Pearson's test was run, it was found that there was no statistically significant relationship between the academic achievement of online students and their past learning experiences. The results showed a slight association with a negligible inverse relationship ($r = -0.06$) between number of passes and past online experience. This association was not statistically significant ($p = 0.556$). Similar results were obtained when the same test was run to determine the strength and direction of association that existed between past online experience and number of courses failed. A slight association with a negligible inverse relationship was found ($r = -0.03$), but this association was not statistically significant ($p = 0.761$).

Research Question 2: To what extent are Caribbean online students experiencing transactional distance?

The study found that 74 respondents wanted face-to-face classes while all indicated that there was a need for more interaction and the provision of timely feedback to questions and queries. Several respondents provided comments in relation to the lack of timely feedback. These comments include:

Some e-tutors are paid to be absent. They do not answer in a timely manner if at all. Some e-tutors do not give you a mark if you submit a contribution on the weekly topic after the allotted time to do so and do not give you any feedback. The point of the discussions should be to learn and interact... (Respondent from Barbados and the OECS).

Respondent X not only spoke to the need for timely feedback but also highlighted the impact that lack of timely feedback might have on students' perceptions of transactional distance. She noted that:

Feedback on assignments from each course would be appreciated especially if done in a timely fashion. E-mailing the tutor on a one-to-one level with questions based on a topic or assignment based on a course and getting the feedback will make the distance learning courses a bit more friendly. (Respondent from Jamaica).

Forty-two (42) respondents felt that the level of interaction was not appropriate to their needs. Respondents identified a number of issues which they considered to be inappropriate,

including the need for more synchronous sessions and more feedback. Twenty-four (24) respondents suggested that there should be additional synchronous sessions via Blackboard Collaborate. One respondent noted: “There should be more elluminate [Elluminate] sessions with the tutor so as to reinforce the topics done and to clarify any difficulties encountered”, (respondent from Trinidad and Tobago). Another suggested, “More elluminate [Elluminate] sessions are needed for numerative [numerical] courses”, (Respondent from Barbados and OECS). Yet another noted that “For numerical courses, more sessions should be done on Elluminate Live” (Respondent from Trinidad and Tobago).

Another area identified by many respondents as fostering transactional distance related to the lack of online specific learner orientation. One respondent summarized this situation as requiring:

A person to sit and go over navigation of the site so one can fully participate in online learning. I find it extra difficult to study online; other than guidance on the course, there is no guidance or help for those struggling to get through. I wish I did choose another form of study now I have messed up my gate [*Government Assistance for Tuition Expenses (GATE) programme*] approved funding and finding it difficult to [get] by (Respondent A, Trinidad and Tobago).

Research Question 3: To what extent is the persistence of Caribbean online students affected by their pedagogical and technological readiness?

To assess pedagogical readiness, respondents were asked several questions which sought to assess their comfort with the online learning environment, and, by extension, their pedagogical readiness. This would include their comfort with learning in alternate environments, ability to take responsibility for their own learning, as well as ability and comfort in expressing themselves in writing. The study found that the majority (95%) of the respondents exhibiting these attributes were more likely to succeed academically and persist. Despite this, the Pearson product-moment correlation showed a slight correlation and a negligible positive relationship ($r = 0.052$). This relationship was not statistically significant ($p = 0.065$).

In an effort to better understand what factors may have contributed to their persistence decisions, respondents were asked to indicate their technological skills. The study found that respondents who had had technological experience with computer hardware, for example, laptops and tablets, before commencing their online studies, were more likely to persist. Similar results were obtained for respondents who had had experience using interactive

Why Do Some Stay While Others Leave?

software, for example, computer games. The study also found that 90 per cent of those who persisted used technology twice or more per week. The study also revealed that of the 22 students who left the programme, 19 did not own a computer.

Research Question 4: What factors predict the likelihood of Caribbean online learners persisting with their online degree?

The study further found that four independent variables, namely, employment status, number of courses passed, number of courses taken, and internet access, contributed to learner persistence. When a binary logistic regression test was first run on these four variables, it was found that one of the variables, namely, employment, did not sufficiently correlate with the dependent variable and as such violated the multicollinearity assumption. Pallant (2007) recommends that the correlation should preferably be more than 0.3. Therefore, this variable was removed and the binary logistic regression analysis was conducted again.

The revised model was statistically significant; $X^2 = 282.04$; $df = 3$; $p < 0.0005$; $n = 106$. This suggests that the model was able to distinguish between the number of courses taken, the number passed and those respondents who had access to the internet. The model explained between 23.2% (Cox and Snell R Square) and 33.9% (Nagelkerke R Square) of the variance in the results for number of courses passed, number of courses taken and access to the internet and was able to correctly classify 83% of the cases. The best predictor of non-persistence was access to internet, with an odds ratio of 6.851.

DISCUSSION

The aim of this study was to determine the role that past learning experiences, transactional distance (with a focus on interaction), and technological readiness has on student persistence in online education in the Caribbean. The results showed that past learning experience did not have a statistically significant impact on persistence. Lack of interaction with tutors was shown to be a concern during past learning experiences as well. Zhao (2016) noted that student participation in the classroom is impacted by their character, age, culture and proficiency in language. The influence of culture is thought to be paramount as it dictates the social norms within the classroom (Zhao, 2016). Given the traditional educational culture in the Caribbean (Yusif-Khalil, 2006; World Bank, 2005), this finding would be expected. However, what is particularly interesting about this finding is the suggestion that transactional distance may also be as applicable to the face-to-face environment as it is to

online and/or distance education since it suggests that learners may experience psychological distance and lack of effective interaction in both learning environments.

The study further revealed that there was a dearth of effective interaction between students and tutors as well as among students in the online environment. Several authors, from as early as Galusha (1997) to more contemporary writers like Baum and McPherson (2019) found that interaction among peers, and between students and tutors was vital for learners in the online environment. Baum and McPherson concluded that although some students persisted without active and effective interactions, others, mainly those with poor academic skills, or lack of pedagogical readiness, ultimately failed to persist. Therefore, if interaction was limited or non-existent, then the other skills would have to be strong for learners to persist.

The study also found that of the factors that had a statistically significant effect on persistence (employment status, number of course taken, internet access and unexpected financial burden) access to the internet had the greatest impact. Although the current COVID-19 pandemic has showcased lack of or poor internet access as a major shortcoming in online higher education (Friedman et al., 2021), this is not a new concern. Rogers and Picard (2017) when considering mobile learning from an African perspective noted the challenges caused by poor or lack of internet access. Similarly, Rosenboom and Blagg (2018) found that approximately 25 million people in the USA did not have access to the internet. In their writing, Rosenboom and Blagg identified three education deserts, namely: physical, online, and both physical and online. They defined physical education desert as having no college or university or having access to a single community college and online educational desert as having limited internet access. The third category therefore referred to students who had access to neither physical nor online resources. However, although not included in their definition, lack of internet access must also be classified in this category. When the realities of the Caribbean online student are considered (especially for those residing in a non-UWI campus country and/or who may have limited internet access), it is clear that those who do not persist would have been influenced by the experience of both physical and online deserts

Further, the lack of readily available internet meant that some respondents were unable to readily participate in collaborative activities; had to “play catch up” on assignments; and some experienced a higher level of course failures. All these factors contributed to their experience of transactional distance due to the lack of effective and sustained interaction and/or dialogue. Moore (1993) found that when interaction was low, transactional distance was high. Therefore, limited or no internet access experienced by some of the respondents in the study, although an indicator of their lack of technological readiness, would have also

contributed to their experience of transactional distance. Moreover, limited internet access would have ultimately affected their academic achievement and would have negatively influenced their decision to continue with their studies.

In summary, the study found that although several factors contributed to Caribbean online learners' persistence decisions, past learning experiences had no statistically significant impact. Additionally, it found that technological readiness and lack of internet had the most significant impact on the persistence decisions of Caribbean online learners.

REFERENCES

- Alhihi, M., Ossiannilsson, E., & Berigel, M. (2017). Levels of interaction provided by online distance education models. *EURASIA Journal of Mathematics Science and Technology Education*, 13(6), 2734-2748.
- Alman, S. W., Frey, B. A., & Tomer, C. (2012). Social and cognitive presence as factors in learning and student retention: An investigation of the cohort model in an iSchool setting. *Journal of Education for Library and Information Science*, 53(4), 290-302.
- Barclay, C., Donalds, C., & Osei-Bryson, K. (2018). Investigating critical achievement factors in online learning environments in higher education systems in the Caribbean, *Information Technology for Development*, 24(3), 582-611.
<https://doi.org/10.1080/02681102.2018.1476831>
- Bates, A. (2018). Teaching in a digital age: Guidelines for designing teaching and learning for a digital age. BCcampus. <https://opentextbc.ca/teachinginadigitalage/front-matter/scenario-a/>
- Baum, S., & McPherson, M. (2019). The human factor: The promise and limits of online education. *Daedalus*, 148(4), 235-54. https://doi.org/10.1162/daed_a_01769
- Boisselle, L. N. (2014). Online-learning and its utility to higher education in the Anglophone Caribbean. *Sage Open*, 1-14. <https://doi.org/10.1177%2F2158244014555118>

- Bonnet, D., & Wright, T. (2015). Cronbach's alpha reliability: Interval estimation, hypothesis testing, and sample size planning. *Journal of Organizational Behavior*, 36(1), 3-15. <https://doi.org/10.1002/job.1960>
- Christensen, C. M., Horn, M.B., Caldera, L., & Soares, L. (2011, February 8). Disrupting college: How disruptive innovation can deliver quality and affordability to postsecondary education. <https://www.americanprogress.org/issues/economy/reports/2011/02/08/9034/disrupting-college/>
- Cigdem, H., & Ozturk, M. (2016). Critical components of online learning readiness and their relationship with learner achievement. *Turkish Online Journal of Distance Education*, 2(8), 98-109.
- Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, 16, 297-334. <https://doi.org/10.1007/BF02310555>
- Crues, R.W., Henricks, G.M., Perry, M., Bhat, S., Anderson, C.J., Shaik, N., & Angrave, L. (2018). How do gender, learning goals, and forum participation predict persistence in a computer science MOOC? *ACM Transactions on Computing Education*, (18)18.
- Devlin, M., & McKay, J. (2016). Teaching students using technology: Facilitating achievement for students from low socioeconomic status backgrounds in Australian universities. *Australasian Journal of Educational Technology*, 32(1), 92-106. <https://doi.org/10.14742/ajet.2053>
- Eliasquevici, M. K., Seruffo, M. C. da R., & Resque, S. N. F. (2017). Persistence in distance education: A study case using Bayesian network to understand retention. *International Journal of Distance Education Technologies*, 15(4), 61-78. <https://doi.org/10.4018/IJDET.2017100104>
- Friedman, J., York, H., Mokdad, A., & Gakidou, E. (2021). US children learning online during COVID-19 without the internet or a computer: Visualizing the gradient by race/ethnicity and parental educational attainment. *Socius: Sociological Research for a Dynamic World*. 7, 1-3. <https://doi.org/10.1177%2F2378023121992607>
- Galusha, J. M. (1997). Barriers to learning in distance education. *Interpersonal Computing and Technology*, 5(3-4), 6-14. <https://www.learntechlib.org/p/85240/>

Why Do Some Stay While Others Leave?

- Garratt-Reed, D., Roberts, L. D., & Heritage, B. (2016). Grades, student satisfaction and retention in online and face-to-face introductory psychology units: A test of equivalency theory. *Frontiers in Psychology*, 7, 1-10.
<https://doi.org/10.3389/fpsyg.2016.00673>
- 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. <http://dx.doi.org/10.5944/openpraxis>
- Hammond, D. E., & Shoemaker, C. (2014). Are there differences in academic and social integration of College of Agriculture Master's students in campus based, online and mixed programs? *NACTA Journal*, 58(3), 180-188.
- Hu, M. & Li, H. (2017). Student engagement in online learning: A review. *International Symposium on Educational Technology*, 39-43.
- Huang, X., Chandra, A., DePaolo, C. A., & Simmons, L. L. (2016). Understanding transactional distance in web-based learning environments: An empirical study. *British Journal of Educational Technology*, 47(4), 734-747. <http://doi.org/10.1111/bjet.12263>
- Hung, M. L., Chou, C., Chen, C.-H., & Own, Z.-Y. (2010). Learner readiness for online learning: Scale development and student perceptions. *Computers & Education*, 55(3), 1080-1090. <https://doi.org/10.1016/j.compedu.2010.05.004>
- Hunte, S. (2012). First time online learners' perceptions of support services provided. *Turkish Online Journal of Distance Education*, 13(2), 180-197.
<https://www.learntechlib.org/p/55348/>
- Ilgaz, H., & Gülbahar, Y. (2015). A snapshot of online learners: E-readiness, e-satisfaction and expectations. *International Review of Research in Open and Distributed Learning*, 16(2), 171-187. <http://dx.doi.org/10.19173/irrodl.v16i2.2117>
- Kauffman, K. (2015). A review of predictive factors of student achievement in and satisfaction with online learning. *Research in Learning Technology*, 23, 1-13.
<https://doi.org/10.3402/rlt.v23.26507>
- Kerr, A. (2015). Online education and academic performance: The case of online tertiary students in the Caribbean. *Caribbean Educational Research Journal*, 3(2), 90-108.

- Kimbark, K., Peters., M.L., & Richardson, T. (2017). Effectiveness of the student achievement course on persistence, retention, academic achievement, and student engagement. *Community College Journal of Research and Practice*, 41, 124-138.
<http://dx.doi.org/10.1080/10668926.2016.1166352>
- Kuh, G.D., Crue, T.M., Shoup, R., Kinzie, J., & Gonyea, R.M. (2008). Unmasking the effects of student engagement on first-year college grades and persistence. *Journal of Higher Education*, 79(5), 540-563. <https://www.jstor.org/stable/25144692>
- Lambrinidis, G. (2014). Supporting online, non-traditional students through the introduction of effective eLearning tools in a pre-university tertiary enabling programme. *Journal of Higher Education Policy and Management*, 36(3), 257-267.
<https://doi.org/10.1080/01587919.2014.899053>
- Li, C., & Lalani, F. (2020, April 29). *The COVID-19 pandemic has changed education forever: Here is how.* <https://www.weforum.org/agenda/2020/04/coronavirus-education-global-covid19-online-digital-learning/>
- Mantilla, G., & Lewis, K.O. (2012). Determining faculty and student readiness for an online medical curriculum. *Med Sci Educ.* 22, 228-243.
<https://doi.org/10.1007/BF03341791>
- Markle, G. (2015). Factors influencing persistence among nontraditional university students. *Adult Education Quarterly*, 65(3), 267-285.
<https://doi.org/10.1177%2F0741713615583085>
- McKie, A. (2020, September 3). *Lack of study space and poor connections hinder online learning.* Times Higher Education.
<https://www.timeshighereducation.com/news/lack-study-space-and-poor-connections-hinder-online-learning>
- Miller, T., MacLaren, K., & Xu, H. (2020). Online learning practices, perceptions, and technology. *Canadian Journal of Learning and Technology*, 46(1), 1-27.
<https://doi.org/10.21432/cjlt27894>
- Moore, C., & Greenland, S. (2017). Employment-driven online student attrition and the assessment policy divide: An Australian open-access higher education perspective. *Journal of Open, Flexible and Distance Learning*, 21(1), 52-62.

Why Do Some Stay While Others Leave?

- Moore, M. G. (1993). Theory of transactional distance. In D. Keegan (Ed.), *Theoretical principles of distance education* (pp. 22-38). Routledge.
- Moreno-Marcos, P. M., Muñoz-Merino, P. J., Alario-Hoyos, C., & Kloos, C. D. (2020). Re-defining, analyzing and predicting persistence using student events in online learning. *Applied Science*, 10(1722), 1-24. doi:10.3390/app10051722
- Pallant, J. (2007). *SPSS survival manual: A step by step guide to data analysis using SPSS for windows*. Open University Press.
- Peechapol, C., Na-Songkhla, J., Sujiva, S., & Luangsodsai, A. (2018). An exploration of factors influencing self-efficacy in online learning: A systematic review. *International Journal of Emerging Technologies in Learning*, 9(13), 64-86.
<https://doi.org/10.3991/ijet.v13i09.8351>
- Peters, O. (1998). *Learning and teaching in distance education: Analyses and interpretations from an international perspective*. Kogan Page.
- Pinchbeck, J., & Heaney, C. (2017). Case report: The impact of a resubmission intervention on level 1 distance learning students. *Open Learning: The Journal of Open, Distance and e-Learning*, 32(3), 236-242. <https://doi.org/10.1080/02680513.2017.1348290>
- Pittenger, A., & Doering, A. (2010). Influence of motivational design on completion rates in online self-study pharmacy-content courses. *Distance Education*, 31(3), 275-293.
<https://doi.org/10.1080/01587919.2010.513953>
- Prensky, M. (2001). Digital natives, digital immigrants. *On the Horizon*, 9(5), 1-6.
<http://dx.doi.org/10.1108/10748120110424816>
- Pugh, C. (2019). Self-determination: Motivation profiles of bachelor's degree-seeking students at an online, for-profit university. *Online Learning*, 23(1), 111-131.
doi:10.24059/olj.v23i1.1422
- Rios, T., Elliott, M., & Mandernach, B. J. (2018). Strategies for maximising online student satisfaction. *The Journal of Educators Online*, 15(3).

- Rogers, K., & Picard, M. (2017). A systematic review on mobile learning in higher education: The African perspective. *The Turkish Online Journal of Educational Technology*, 16(1), 1-18.
- Rosenboom, V., & Blagg, V. (2018). Disconnected from higher education: How geography and internet speed limit access to higher education. Urban Institute.
https://www.urban.org/sites/default/files/publication/96191/disconnected_from_higher_education_2.pdf
- Salazar-Marquez, R. (2017). Digital immigrants in distance education. *International Review of Research in Open and Distance Learning*, 18(6), 231-242.
<https://doi.org/10.19173/irrodl.v18i6.2967>
- Shah, M., & Cheng, M. (2018). Exploring factors impacting student engagement in open access courses. *Open Learning: The Journal of Open, Distance and e-Learning*, 34(2), 187-202. <https://doi.org/10.1080/02680513.2018.1508337>
- Siemens, G. (2004, December 12). Connectivism: A learning theory for the digital age. *International Journal of Instructional Technology and Distance Learning*.
<http://www.elearnspace.org/Articles/connectivism.htm>
- Stone, C., Freeman, E., Dymont, J., Muir, T., & Milthorpe, N. (2019). Equal or equitable? The role of flexibility within online education. *Australian and International Journal of Rural Education*, 29(2), 26-40.
- Tang, S. F. & Lim, C. L. (2013). Undergraduate students' readiness in e-learning: a study at the business school in a Malaysian private university. *International Journal of Management & Information Technology*, 4(2), 198-204.
<https://doi.org/10.24297/ijmit.v4i2.1900>
- Tinto, V. (2017). Reflections on student persistence. *Student Success*, 8(2), 1-8.
<https://doi.org/10.5204/ssj.v8i2.376>
- Veira, A. K., Leacock, C. J., & Warrican, S. J. (2014). Learning outside the walls of the classroom: Engaging the digital natives. *Australasian Journal of Educational Technology*, 30(2), 227-244. <https://doi.org/10.14742/ajet.349>
- Vincenzes, K. A., & Drew, M. (2017). Facilitating interactive relationships with students online. *Distance Learning*, 14(4), 13-22.

Why Do Some Stay While Others Leave?

- Warner, D., Christie, G., & Choy, S. (1998). *Readiness of VET clients for flexible delivery including on-line learning*. Australian National Training Authority.
- Warrican, S., Leacock, C., Thompson, B., & Alleyne, M. (2014). Predictors of student achievement in an online learning environment in the English-speaking Caribbean: Evidence from The University of the West Indies Open Campus. *Open Praxis*, 6(4), 331-346. <http://dx.doi.org/10.5944/openpraxis.6.4.158>
- Whitehill, J., Mohan, K., Seaton, D., Rosen, Y.; & Tingley, D. (2017) Delving deeper into MOOC student dropout prediction. arXiv 2017, arXiv:1702.06404. Available online: <https://arxiv.org/pdf/1702.06404.pdf> (accessed on 8 December 2021).
- Willis, B. (2014, July 5). *The advantages and limitations of single case study analysis*. E-International Relations. <https://www.e-ir.info/2014/07/05/the-advantages-and-limitations-of-single-case-study-analysis/>
- World Bank (2005). Expanding opportunities and building competencies for young people, a new agenda for secondary education. <https://openknowledge.worldbank.org/handle/10986/7429>
- Wuellner, M. R. (2013). Student learning and instructor investment in online and face-to-face natural resources courses. *Natural Sciences Education*, 42(1), 14-23. <https://doi.org/10.4195/nse.2012.0023>
- Yoo Joo, S., & Huang, W. D. (2013). Engaging online adult learners in higher education: Motivational factors impacted by gender, age, and prior experiences. *The Journal of Continuing Higher Education*, 61(3), 151-164, <https://doi.org/10.1080/07377363.2013.836823>
- Yusuf-Khalil, Y. (2006, October 30 – November 3). *Engendering development needs: 'Doing' gender through distance learning in the English-speaking Caribbean* [Conference session]. Fourth Pan Commonwealth Forum on Open Learning: Achieving Development Goals; Innovation, Learning, Collaboration and Foundations, Ocho Rios, Jamaica. <https://www.col.org/about/pan-commonwealth-forum/fourth-pan-commonwealth-forum-open-learning-pcf4>
- Zhao, C. (2016). Factors influencing student participation in classroom interaction. *Higher Education of Social Science*, 11, 20-23.