



Opting In or Opting Out: The Role of Hybrid Learning Course Design on Student Persistence Decisions in an Indigenous Pre-Nursing Transitions Program

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Abstract: Transitions programs to support non-traditional students have a long history in Canada. Despite investment in these programs over more than thirty years, there still exists a considerable gap between Indigenous students' graduation rates and those of their non-Indigenous counterparts, with significant numbers of students dropping out of university programs within the first year. At the same time hybrid learning has been posed as an innovation that stands to disrupt current educational paradigms. The goal of this small-scale exploratory case study was to determine what attributes of the design and structure of a hybrid learning environment encouraged positive persistence decisions for Indigenous students. The results of this case study describe the complexity of decisions made by Indigenous students when choosing to participate in a learning event. Further, the results highlighted the importance of flipped learning design and support that takes into account Indigenous pedagogy.

Résumé: Les programmes de transitions pour soutenir les étudiants non traditionnels ont une longue histoire au Canada. Malgré l'investissement dans ces programmes depuis plus de trente ans, il existe encore un écart considérable entre les taux d'obtention du diplôme des étudiants autochtones et ceux de leurs homologues non autochtones, avec un nombre important d'étudiants qui abandonnent des programmes universitaires au cours de la première année. Parallèlement, l'apprentissage hybride a été représenté comme une innovation qui se tient à perturber les paradigmes éducatifs actuels. Le but de cette étude de cas exploratoire à petite échelle était de déterminer quels attributs de la conception et de la structure d'un environnement d'apprentissage hybride ont encouragé les décisions de persistance positive pour les étudiants autochtones. Les résultats de cette étude de cas décrivent la complexité des décisions prises par les étudiants autochtones lorsqu'ils choisissent de participer à un événement d'apprentissage. En outre, les résultats ont mis en évidence l'importance de la conception de l'apprentissage renversé et du soutien qui tient compte de la pédagogie autochtone.

Keywords: access program, indigenous pedagogy, persistence, adult learners, hybrid learning

Introduction

The New Media Consortium (NMC) Horizon Report: 2014 identified the adoption of hybrid learning in traditional higher education learning spaces as one of the most important trends that will impact education over the next two years (Johnson, Becker, Estrada & Freeman, 2014). However, the application of hybrid learning for students in non-traditional learning spaces in higher education, such as Transitions and Access programs, has not been extensively explored. A review of the scanty literature available in the area indicates that transitions programming is predominantly positioned around institutional needs (retention and attrition) rather than student needs (Astin, 1984; Barnhardt, 1994; Guillory & Wolverton, 2008; Larimore & McClellan, 2005; Reyhner & Dodd, 1995). This triad—the potential of hybrid learning to transform higher education, the gap in the literature related to hybrid learning and transitions programs, and the lack of documented evidence around the success of transitions programs from students' perspectives, forms the basis of the investigation for this small scale case study. Through an examination of a low tech hybrid learning strategy, the research aimed to



discover the essential conditions needed in the design of a hybrid course that could lead to increased Indigenous student persistence within a Pre Nursing Transitions (PNT) program.

Review of the Literature

Theories of Persistence

For the purpose of this research persistence was defined as a continuous learning process that was the result of students' decisions to continue their participation in the learning event under analysis. The most commonly cited theories of persistence, as determined by citation frequency in three separate university library database searches, were: Tinto's student integration model (1975),

Tinto's Model of Integration has formed the basis of research and theory on student retention and persistence in higher education for more than forty years (Tinto, 1975, 2006, 2012). Tinto argued that academic integration is the single most important factor in predicting persistence (Tinto, 1975: 104). In response to criticism that the Integration model is not relevant for non-traditional or adult learners who may have stronger ties outside of the educational setting (Braxton, 2008), Karp, Hughes and O'Gara (2008) conducted a study which indicated that social integration was indeed related to positive persistence decisions for adult learners but was associated with academic integration more akin to collegiality and positive workplace relationships.

Rovai (2003) offered an alternative model of persistence that more clearly acknowledges the role of students' skills in persistence decision processes in relation to online learning persistence. In his Composite Model, Rovai (2003) used student characteristics and skills prior to admission as well as external and internal post-admission factors to determine persistence. Though integration into the university community remained a central component of the Composite Model, Rovai attempted to describe the scaffolding needed to mitigate the factors that can adversely affect persistence. Rovai added new variables in existing categories of the Tinto (1975) model, related to technology skills, study skills and learning styles theory. Rovai (2002) made the suggestion that when students' learning styles do not match that of the program, they are less likely to persist. Alternatively, according to Rovai (2003), the addition of scaffolding that enabled students to solve problems increased students' self-esteem and contributed to their willingness to participate in the community and subsequently persist in their studies. Rovai's model designed to describe distance students' participation also suggested the use of a hybrid model for teaching as "the best of both worlds" (Rovai, 2003: 13) because it allows students to self-pace using online scaffolding in addition to the face-to-face component of a course.

In Berge and Huang's (2004) Sustainable Model of Retention variables impacting persistence are placed in three key functional groups: personal, institutional and circumstantial. This model is purported to be more "context sensitive" (Berge & Huang, 2004, 13) than the previously discussed persistence models. The sustainable model is premised on the assumption that students continually undergo a cost/benefit analysis when choosing to participate or not to participate in a particular event. Therefore, both students and institutions can identify specific variables in these three functional groups when making decisions to persist or when developing programs leading to persistence that is highly contextual to student, institution and event. Although appearing to provide a holistic approach to student retention, this model has neither been widely tested nor reviewed in academic circles.

There is a question of relevancy of traditional persistence models in relation to minority students. Current literature suggested there were definitive differences between Indigenous ways of knowing and the traditional Western or Eurocentric educational system (Battiste, 2005; Bell, 2004; Friesen & Friesen, 2005; Haggan, Brignall, Peacock, & Daniel, 2002; Kanu, 2011; Kovach, 2009).

Advantages of Hybrid Learning in Course Delivery

Hybrid and blended learning have been cited in the literature as teaching modalities with the potential to increase participation and engagement in post-secondary education beyond levels what could be achieved either by traditional face-to-face classrooms or purely online instruction (Garrison, 2011; Means, Toyama, Murphy, Bakia, & Jones, 2009; Orhan, 2008). Substantial literature exists on blended learning strategies used to mitigate the perceived weaknesses of completely online courses (Harris, Connolly, & Feeney, 2009; Rose & Ray, 2011). One of the most prominent hybrid models found in the literature today is the “Flipped Classroom”, where students view pre-recorded lectures prior to face-to-face classroom participation (Flipped Learning Network, 2014). The Flipped Learning Network (2014) has published a framework for structuring a flipped learning event, based around the four pillars of F-L-I-P, respectively known as Flexible Environment, Learning culture, Intentional content and Professional educator (FLN, 2014). However, more research needs to be conducted on methods for achieving an appropriate balance of online components and more traditional elements (Garrison, 2011).

Blended learning makes it possible for the instructor to transfer control of learning to students, who can apply their own methods for mastering the material rather than rely solely on the instructor’s approach (Rose & Ray, 2011). Personalizing the learning experience, which can be achieved through the development of differentiated online components, helps reduce disengagement and instrumentalism among students (Holley & Dobson, 2008). Ayala (2009) stated that blended learning facilitates self-directed learning, while still affording opportunities for teacher intervention and monitoring face-to-face as needed. Blended-learning is thought to increase community and student satisfaction among learners by extending the reach of the course through discussion forums and other collaborative media where conversations need not end because the course or the instructional hour has ended (Lim & Yoon, 2008; Rose & Ray, 2011; Rovai & Jordan, 2004). Alternatively, the reach of a course can be extended by providing opportunities for students wanting more interaction with classmates or a more personalized learning experience to share resources they have found or created (Motteram & Sharma, 2009). Finally, classrooms can be structured to allow instructors to concentrate on individual student issues rather than presenting general content (Orhan, 2008). In short, blended learning has the potential to offer just-in-time assistance to students, while minimizing the potential stigma of acknowledging the need for assistance in the “transition class” because students are able to tailor their learning to their needs and remain anonymous. Studies examining student success with regard to completion and academic achievement indicated that hybrid/blended methodologies offer improved success rates (Donnelly, 2010; Woltering, Herrier, Spitzer, & Spreckelsen, 2009). However, critics argue it is not the enhancement of technology but the pedagogy behind the changes that encourages success (Bogost, 2013).

There is evidence that e-learning can support community development (Coole & Watts, 2009) cited as important to persistence and integration (Tinto, 2012; Astin, 1984; and Rovai, 2002). Nimmer (2009) extended the argument to suggest that cohort members may feel uncomfortable in either strictly online environments or environments that are strictly face-to-face. In a repetition of results presented earlier, Nimmer (2009) suggested the hybrid model is valuable for community development within a cohort because it allows students some of the anonymity associated with online without the isolation of a purely online experience.

Hybrid Learning with Non-Traditional Student Populations

Little literature exists describing the place for hybrid learning for Indigenous learners. Adult learners and other non-traditional students are often tempted or encouraged to enrol in online courses because of the perception that this type of delivery model will offer greater flexibility and access that might otherwise not be possible (Allan, Seaman, & Garrett, 2010). Hughes (2007) cautiously indicated improved retention of non-traditional students is possible through

the application of hybrid learning when substantial resources and skilled teaching staff were available. However, competing life roles for non-traditional students suggest that performance may be better if programs are started using face-to-face courses, as there has been limited success with fully online programming (van Droon & van Droon, 2014). In a discussion of transition programming the Association of Canadian Community Colleges (ACCC, 2010) highlighted the importance of intentionally building opportunities for success within the scaffolding of course structure which may be facilitated by hybrid learning.

Heaton-Shrestha, May and Burke (2009) have been critical of hybrid learning for non-traditional students and have suggested there is little evidence to support the claims that hybrid learning may be personalized. They contended that hybrid learning reinforced inequality within higher education by further disadvantaging non-traditional students by replicating inequalities of face-to-face classroom experiences online. Other critics of e-learning have suggested that barriers to participation such as financial or technical factors may be underestimated (Bennett & Marsh, 2003; Johnson, MacDonald, & Brabazon, 2008; Simms, 2005). McAuley and Walton (2011) have suggested that it is not the technology but the way in which it is used that is at issue. They state in particular the hierarchical structures of discussion forum design common to most LMS platforms causes non-traditional students to resist participation, and that students can share ideas more effectively when discussions are facilitated through more flexible platforms (McAuley & Walton, 2011). This claim is also supported by the work of Smith & Gottheil (2011) when describing the impact of Eurocentric approaches to traditional transitions programming design.

Although there is still much work to be done in this area, a few case studies also suggested that hybrid/blended courses can be effective alternatives for non-traditional students, as these barriers may not be insurmountable when considered carefully (McAuley & Walton, 2011; Twigg, 2003).

Research Design and Methods

Research Design

A single embedded case study approach was developed to examine students' experiences in two PNT-required biology courses. Anecdotal evidence provided by PNT administrators identified the core biology courses as the "breaking point" courses, meaning students' successful completion of these courses was a key indicator of future success both in PNT and entrance into the nursing program. Both quantitative and qualitative data were collected over the duration of one academic year, September, 2013 to May, 2014. Ethics approval was sought and received from the university's research ethics committee and adhered to the additional requirements mandated for work with Indigenous participants.

Three different types of data were collected: observations of online activities, participant created contact maps and individual semi-structured interviews. Online activities were observed and recorded through the reporting tools of the university's Learning Management System (LMS). Contact maps were created by participants using the procedures outlined by Schreurs and De Laat (2012). The purpose of this recall instrument was to ask the students to examine their individual perspectives on interactions/contacts over a period of time and identify the connections they relied on more frequently and for what purpose. Individual interviews proved to be the most critical data source for the research. Interviews between 20 to 80 minutes in length were conducted in three deliberately selected time periods: September, December and April. The instructor of the biology courses and the counselling staff who were identified by the students participated in a single interview each of approximately 60 minutes at the conclusion of the data collection period. Interviews followed a semi-structured protocol and were designed to gather information on student narratives in their own words, both supporting procedures of case study (Yin, 2009) and being mindful of Indigenous research methodologies (Denzin, Lincoln, & Smith, 2008; Kovach, 2009). Contact maps were used

predominantly as a tool to further discussion of relationships within interviews, as well as to triangulate themes emerging from interview data.

The participant group for the research consisted of students enrolled in a one-year Pre Nursing Transitions (PNT) program. The PNT program demanded that students complete the same course requirements of the university's mainstream first-year nursing program but was supplemented with additional supports, such as tutoring, academic and personal counselling and smaller classes with enrollment limited to PNT members. All students were self-selected volunteers participating in two of the core biology courses required of PNT. Faculty and staff identified by students as critical to influencing persistence decisions were invited to participate in interviews during the final stages of data collection.

Hybrid Course Design

The course design for this research included the development of online supports for two core biology courses taken sequentially in the fall and winter terms. Discussions with student participants indicated that the university's mandated Learning Management System (LMS) would be the most appropriate platform for the supports because of participants' concerns for privacy. The instructor felt strongly that students needed to be present in the classroom to stay engaged in the material, thus, a technology enhanced learning design for the courses was adopted. In term one (the first course), the online supports took the form of electronic lecture notes, audio-recorded lectures, sample tests and an online discussion forum. In semester two (the second course), the online discussion forum was removed, as well as the audio lecture because students did not use these features and the instructor found them time consuming to create.

Findings and Discussion

Group Participant Profile

To gain entry to the PNT program, all students must have provided evidence of Indigenous ancestry as outlined by the university's self-declaration policy. The profile of participants within PNT was diverse. The participant group initially consisted of four students, the instructor of the biology pre-requisites and an academic counsellor/program coordinator. The four students represented 10.5% of the total number of students officially registered in the pre-nursing (PNT) program (S. Burns, personal communication March 20, 2014). The student participants ranged in age from 19 to 40, dispersed over three age categories: two participants were between the ages of 18-24, one participant was between the ages of 25 to 35 and one participant was above the age of 35. All student participants were female and declared the location of the university as their home city. Student participants, with one exception, had taken a break between high school and university entrance. All student participants were in long-term relationships, and were responsible for some aspect of family support, be it supplementing parental income, raising children, or providing care for other family members. The participant identified as Rebecca left the study before its completion but allowed her data to remain included to the point of her withdrawal in January, 2014.

Analysis of Data

Analysis was conducted in a cyclical manner, through a coding and reanalysis after each subsequent interview. Quantitative data generated by the LMS monitoring were compiled in a relative frequency chart to determine what portions of the online content of the course were used most often, as well as to compare how frequently students within the research sample logged on relative to one another. Contact map data was analyzed and interpreted using Borgatti, Everett and Freeman's (2002) UCINET software. The software created a visual representation in the form of a sociogram of the students' perceived interconnections within the cohort. UCINET matrices allowed for the recording of reciprocal relationships (double-headed arrows), number of contacts (size of an individual's node), clique membership

(interconnection of the regular contacts) and cohesion of the larger group (density of overlap of individuals and cliques). Given the small number of participants and the use of recalled contacts rather than actual counts from a discussion forum, the data were incorporated with caution, used predominantly to triangulate interview data and generate discussion during interviews. The limitations of the study include all those associated with case study and, in addition, the small participant size reflects the experiences of these students, which may not be reflective of the entire cohort.

Findings

The findings of this case can be summarized in one word: efficiency. Students who participated in the study considered very few of the online supports useful because they took too much time to access or use. Rather than encouraging persistence the rejected tasks were viewed as additional work for students already feeling pressured by time constraints brought about from being adult learners, parents and employees. From the review of the student activity in the LMS, the following observations were made: students did not use the discussion forum, only one student accessed the recorded lectures in term one, and the PowerPoint lecture notes were heavily accessed (see Figure 1). The explanation for this provided by student interview data will be discussed in the following subsections by examining each tool in turn.

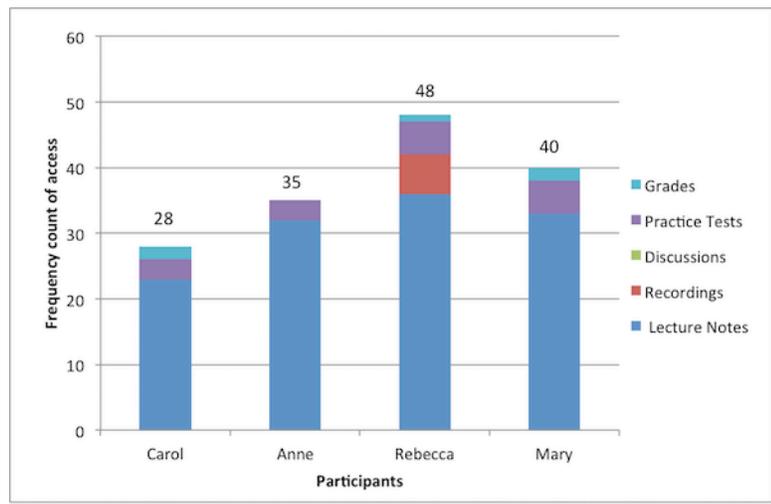


Figure 1: Participant access to LMS offerings in course one September–December 2013.

Online Discussion Forums

The discussion forum was designed to allow for an alternative form of communication for students who were either unable to participate in a class physically or for those who might have felt too shy to ask questions in the face-to-face classroom space. Both ability to participate in classes or tutorials due to personal time conflicts, and confidence in speaking within the face-to-face spaces, were identified by the instructor as issues faced by the students. In the first offering of the course, online discussion forums were seeded with questions to encourage participation and to “break the ice” by initiating discussions on course topics. Participation in the online forums was encouraged in the face-to-face lectures by the instructor. No participating student posted in any forum, neither ones with formal course content-based discussions nor the more informal forum entitled “student lounge”. When students were interviewed about the value of the online discussion forum, their responses can be exemplified in this comment from Anne: “I just find that a lot of effort to do, when really I just need to get my homework done.” Students felt the discussion was akin to an additional homework assignment that was not as rigorously marked. Students were informed that by participating in the discussions they could make up for missed face-to-face participation,

which accounted for 10% of their final grade. However, it appears from student responses that neither the inherent value of the forum nor the external value of (re)claiming “participation marks” was high enough to encourage students to participate. The online discussion forums were removed from the design of the second course offering due to lack of participation by the students contrasted against the effort needed by the instructor to create and maintain an under-used discussion space.

It was initially thought that given the complexity of students’ lives, the provision of a technologically-mediated space for virtual presence and community building within the cohort would increase students’ contact with the course materials, with each other and the instructor. Contrary to the research of Tinto (1975), who stated one of the key aspects of student persistence community membership, in this case both online and face-to-face community membership within the cohort played a marginal role in persistence decisions. Interview data indicated connections between students within the cohort were not strong, nor did they extend extensively beyond small talk before and after scheduled class times or email requests for details around assignment instructions and due dates. Student participants entered the year with caution towards the relationships within the cohort and the larger university community. Mature students (Carol and Anne) were hesitant to invest in the cohort, citing the age gap between themselves and the other students. “Being around a lot of young people I forgot how shy I was when I was young; now I don’t have time for that,” claimed Anne, while Mary made statements exemplifying her distaste for “drama” or “gossip” as unnecessary distractions to on-campus study time. Mary, who had entered PNT the previous academic year stated she felt more connected to her starting year group and was not inclined to invest the energy and time needed to develop relationships with the new cohort members. Anne reported she only invested time in building relationships with the “serious” students. From the interview data it became apparent through comments like “everyone gets busy, and you don’t make the effort to connect” (Anne) and “some people get together on the weekends, but I came here to study not socialize” (Mary) that study participants were highly selective with their investment of time in both academic study and social pursuits.

However, the function of community was more complex than student-student cohort member communication and deserved further investigation. Analysis of interview data alongside contact maps indicated that the student-teacher relationship was critical in informing students’ persistence decisions. All participating students re-iterated at every interview session (fall, winter, spring) the importance of developing a connection with the course instructor, which was considered to be both academic and social. Relationship building was considered to occur predominantly during the face-to-face portions of the course, though, as the year developed, students shared more information with the instructor via email. As exemplified by Anne’s description of her relationship with the instructor, “we can talk a little bit more on a personal level. Like how was your weekend, did you put up your Christmas tree, like silly things”. The instructor reciprocated students’ descriptions of the student-teacher relationship stating: “You get enmeshed in their families, how many children they have, who is sick; you almost become a part of it [their lives].”

Social Network Analysis (SNA) of students’ final contact maps, self-recorded during the period of January-April 2014, presumably with peer relationships well established, confirmed the centrality of the instructor in students’ on-campus connections (Figure 2). SNA data also confirmed the lack of connections between students. Absence of double-ended arrows between participants in Figure 2 indicated that although some participants in the research indicated that they communicated with one another, their bond was not reciprocated or recalled. In interviews where student participants were asked about the connections, the identified relationships were described as acquaintances for the purpose of small talk as opposed to strong connections or meaningful friendships. When questioned about their choices in relationships all students claimed they intentionally kept contacts within the cohort weak in order to minimize distractions and maximize learning efficiency. It should be noted that

Rebecca’s data is not included in this figure as she left the project in January. However, with her consent, references to her perspectives on relationships were included from the initial data collection period.

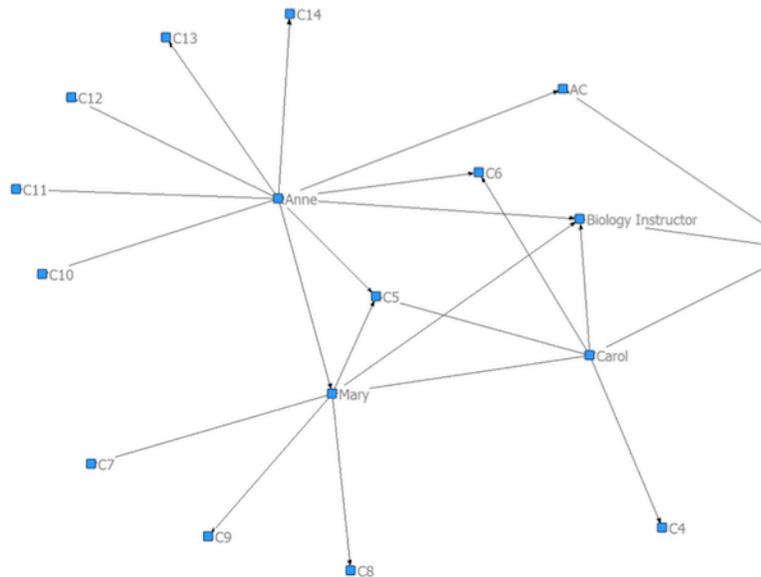


Figure 2: Social network analysis array of recalled contacts within the participant group. Cx indicates student within the PNT though not necessarily the current cohort. Ix represents an instructor, Sx a staff member and AC the academic counsellor.

In this case, students did not connect to the cohort community and hybrid learning did not assist in the forming of connections. This lack of connection-forming may be due to the fact that not all students entered the cohort at the same time. Carol, Anne and Mary entered the university independently a term before the official start date of September, 2013. Mary planned to return to the cohort in the fall of 2014 and, as these students discovered, this was the case for many of the cohort members. However, in parallel to the evidence supplied by Karp, Hughes and O’Gara (2008), students did develop loose connections to the cohort based on the sharing of academic information. The loose connection demonstrated might have illustrated a different approach to community formation by adult learners who must negotiate strong commitments to relationships established outside of the university. It may be too early to determine if this community impacts persistence, however; Karp et al. (2008) noted that the true value of these relationships for persistence were not apparent until the second year of study for the participants in their study.

Recorded Lectures

The rationale behind providing students with a recording of the lecture was to allow them to re-listen to a class that may have been unclear, presented too quickly or to replace a missed class. Through the interview with students, it was discovered the recorded lectures were considered ineffective because they required too much time to access. “I just couldn’t find the time to listen to them, getting notes from someone is easier,” Carol reported during her second interview. Students’ only opportunity to access the recorded lessons was after a class, to replace missing material, at a time that was considered more stressful because they were attempting to catch up. Again, motivated by efficiency, students opted to use the supports that were less time consuming, such as photocopied notes from a colleague or the instructor-created PowerPoint lecture notes. However the larger issue may have been the structure of the lecture recording. Critics of this approach to blended learning argue that the recorded lecture, remains a lecture which is both an industrialized form of education and one predominantly driven by a teacher centric model (Bogost, 2013). By the second interview, two of the three

remaining participating students spoke at length about the influence of lecture structure on their persistence decisions. Carol was disappointed both in the way the material was compartmentalized and in the expectations of “average” marks. She felt the material was too granular to be useful in her future in nursing and also not conducive to internalization, citing the expectation of 60% as a “good” mark by the instructor as an indication of how wrong the course structure was. Anne reiterated these remarks but was less concerned with the presentation format as she was with the content’s relevance for future.

When queried about the scaffolding provided within the lectures, students unilaterally identified the critical role of the instructor in organising the course content in a way that it could be consumed by the student easily: “It needs to be like a doctor speaking to a patient—first you break it down into little bits and then build it up” (Carol). However, student participants also indicated that breaking content down into too many minute pieces could be insulting, as exemplified by Carol’s comment: “...sometimes they simplify too much. I remember an example from nursing and I thought, why are you telling me this, is it not common sense?” Deconstruction of content could also cause students to lose sight of the context of their learning as reported in the following quote from Carol:

Maybe I’m wrong but I find at university they seem to construct things. They start from the small and work up to the big picture, whereas in high school they deconstruct everything, I’m used to that. My brain doesn’t want to work the other way. I can’t see the forest for the trees; you know, I need to see the forest so I can recognize the trees.

Carol proposed that funnelling information from larger concepts to smaller, such as looking at body systems before cellular structure rather than the reverse might allow her to make more sense of the instruction. At the time of the second interview, Carol and Anne questioned the validity of the structure of the biology courses as it had been explained to them. Both students claimed the instructor said material started with smaller components and how these components worked together would become clear by the end of the year. In the last interview, Carol—who felt she was struggling academically—still identified the compartmentalization of the content as being one of the reasons for lack of clarity. She felt the “big picture” was still missing and identified an inability to relate what was learned to nursing. Carol was quite concerned with both the value of the material selected for study as well as her ability to learn it:

I just want to get into nursing and start learning the practical stuff, like a lot of this stuff we are doing now, we aren’t going to use that again. And I’ve even heard graduates say they get out into the hospital and that’s where they learn how to be a nurse, but I don’t want to do that, I mean I could kill someone if I don’t know what I am doing.

The online recordings were removed from the second term course, again because the amount of time needed to prepare the recordings could not be justified against the usage from an instructor perspective.

PowerPoint Notes and Practice Tests

From the interview data, it appeared that if there was no immediate and efficient advantage to the student for use of an item, it was ignored. This same reasoning provided the explanation for the aspects of the online design that was used by students. Practice tests and the electronic lecture notes (made available before class) were often cited as useful, as noted by Anne:

I go on there all the time to get my notes, I print them and read them before class. I bring them to lecture, makes notes on them, and if I have a question I write it there so when we have tutorial I can find it easily. It’s so efficient.

The literature examining transitions supports suggested early intervention and scaffolding of learning as critical to student success (ACCC, 2010; Smith & Gottheil, 2011). Although the presentation of course notes on first appearance did not reflect “good learning design” from a blended learning perspective (Orhan, 2008), for the participants in this case the notes appeared

to serve a useful purpose. Student participants identified time pressures external to the university environment that encouraged them to be very selective about how they invested their time. Course notes were appreciated because they made both the lecture and study time more efficient and also ensured a clear structure and format for classes that could be easily followed. From interviews, it became evident students in the study were discerning learners, who wanted clear guidelines and the most efficient path towards course completion. As Anne explained:

We had our first lab today (second term) and we are all mixed, cohort and regular students. They just seemed so lost. I brought out my notes and my slides all printed out from my lectures and everyone was salivating; they were, like, you get notes, you get the lecture slides? I really had the sense that a lot of the students I was talking to were struggling and I felt so fortunate.

Each student used the course notes in a way that allowed them to personalize their learning and make face-to-face time more efficient. Anne regularly printed the notes before class to read and review, Carol used them to review after class or as a replacement for a missed class, while Mary used the printed slides to scaffold her note-taking during class. Rose and Ray (2011) suggested that blended learning has the potential to allow students to personalize their learning to a greater degree. In this case, students used the notes to design a self-directed flip class model. When the affordance of the course notes are examined against the F-L-I-P model proposed by the Flipped Learning Network (FLN, 2014), their value became more apparent. The notes allowed students to pre-learn and follow-up on learning around their own time schedules and learning preferences, which are the concepts outlined in Flexible learning (F) and Learning culture (L) (FLN, 2014). Although the content was not intentionally selected for its value in assisting with the flip or the classroom content, the students' use of the notes did allow for greater depth of discussion and monitoring or progress by the instructor during face-to-face sessions (P). In all cases, students in the study indicated the lecture notes led to reduced frustrations in class by making it easier to keep pace with material in the context of what they considered to be a very steep learning curve in the biology courses. Although Holly and Dobson (2008) discussed the reduction of instrumentalism by students as being an advantage of blended learning design, in this case it was the facilitation of instrumentalism by making the access to content more efficient for students, which led to more positive persistence decisions.

Discussion

Initially this case study consisted of a larger number of student participants, however, as the transition year progressed, participants withdrew and requested the removal of their data. One of the challenges of working with at-risk students is that they are prone to leaving the program in question. Both the ethical requirements of the protocols around working with Indigenous students as well as my own beliefs about the ownership of data meant that participants were encouraged to share as much or as little of their data as they felt comfortable revealing. Participants requested the removal of their data for various reasons, which cannot be discussed out of respect for the students' ownership of their own stories. The final three research participants represent a small sub-set of the original group who continued to want to share their story. Two of the three remaining students were successfully accepted into the nursing program in September 2014, while one returned to transitions for another year.

When qualifying "good learning design" for blended learning, the literature outlined the importance of community (Nimmer, 2009). Therefore, attempts were made to facilitate community within the hybrid design. Participants did not choose to engage in community through the online platform; the reasons stated were as individual as the participants, however, through observations of online activities and the student interviews, it became apparent that student participants did not utilize items that did not offer direct and readily observable academic gains. Supports such as the lecture notes which offered immediate gains and made studying more efficient, were the supports that students continued to use throughout the academic year regardless of their mandatory or optional nature. In other

words, students demonstrated a preference for items that increased the efficiency of their learning. From the perspective of persistence models, Berge and Huang's (2004) sustainable model appeared to be the most appropriate. Students seemed to be making a cost benefit analysis in relation to the amount of work needed to complete a task and the benefit obtained for that effort.

The design or format of the community facilitation point within the LMS may have been fundamentally flawed from both an adult learner and Indigenous learner perspective. The design of the discussion component was intended to increase flexibility by allowing for an alternative format for participation and for conversations to continue beyond the face-to-face time (Lim & Yoon, 2008; Rose & Ray, 2011; Rovai & Jordan, 2004). However, the platform choice may have been detrimental to participation. McAuley and Walton (2011) suggested that the LMS itself limits free discussion for adult Indigenous learners because its hierarchical design and instructor-centric control of content may discourage students from participating. The nature of the dialogue in the form of questions seeded by the instructor may have been alienating to students. Citing Anne's comment: "The discussion forum felt like more work." the instructor-directed questions were interpreted as homework rather than dialogue. Garrison (2011), in describing the role of teacher presence in the Community of Inquiry framework, claimed the instructor plays an important role in assisting students' integration into the community, facilitating the move beyond cognitive presence into social presence, and this, too, could begin to explain the students' response to the forum. Teacher facilitation was limited to pre-determined discussion questions and this limited role was likely not enough to encourage participation.

When analyzed from the perspective of hybrid learning design, it appears the recorded lectures were not useful for personalized learning, when lectures were missed or concepts not fully understood it was the PowerPoint lecture notes they referred to because they were easy to access and easy to skip through. The students were also able to use these lecture notes to create their own flipped classroom. Using the Flipped Learning Networks (2014) F-L-I-P model for describing the pillars of flipped classroom, the lecture notes allowed for some degree of F (flexible learning) active engagement with lecture content (L), though the structure of the content was a source of frustration for some (I). The notes did not enhance the role of (P), the professional educator, though students focused on (P) through face-to-face engagement with the instructor. Interestingly, what is often touted as "bad design" for flipped learning—simply placing lecture notes online—offered, in this case, the most effective opportunity for students to engage with the material in a personalized manner.

Final Thoughts

Through the process of conducting this study it became clear why there is so little published literature in the area of Indigenous online learning design and transitions programs. The nature of the question being asked resulted in a small data set that may or may not be representative of larger populations. It also became clear, that the Eurocentric strategies of course design as well as the structure of the LMS propagate a set of values that may further serve to disconnect Indigenous learners from their learning experience. Yet, the persistent participants accommodated and manipulated the learning design offered to use it in diverse ways to meet their own personal learning needs. The findings in this case support the claim of Rovai (2002), which highlighted the importance of matching the structure of the online learning environment to the learning approach valued by the students. For example, although the instructor was felt to be the key person within the course as determined by interview and social network analysis, the contact was not made nor facilitated through the LMS, which presented the instructor in a more controlled power over position than was present in the face-to-face classroom. Instead, students reached out through email, which was considered less formal and more collegial and is how they viewed their relationship with the instructor. Finally, after years of working as an instructional designer critiquing the value of online course

materials that are PowerPoint dumping grounds, the students' identification of the importance of this feature within the course was interesting. Granted, I still wouldn't recommend a blended course consist primarily of power points for the online component, the multitude of possible learning opportunities from a simple tool that most faculty members and students could use encouraged me to dislike the strategy less. It is, as both students and faculty informed me, efficient and, particularly with respect to the learners in this case, the most expeditious and least strenuous path to graduate from the program, which was the aim.

Implications and Recommendations for Future Study

For both faculty instructors and instructional designers, considering how the use of the technological platform reflects the type of relationship you want to foster with your students is an important implication of this work. For students, being able to successfully negotiate a cost benefit analysis before engaging in learning activities appears to have been one of the determining factors in success. Therefore, future research in this area could examine how students and instructors rate online tools in terms of efficiency for learning. Since this work was conducted more research in the area of grassroots learning design outside of the LMS has begun to emerge, and it appears there is a growing interest in identifying and changing learning platform design to better reflect the diversity of the students these platforms are designed to serve.

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