Reimagining the Learning Management System as a "Third" Space

Christina Van Wingerden

Abstract—This paper focuses on a sense of belonging, isolation, and the use of a learning management system as a "third space" for connection and community. Given student use of learning management systems (LMS) for courses on campuses, moderate to high use of social media and hand-held devices, the author explores the possibilities of LMS as a third space. The COVID-19 pandemic has exacerbated student experiences of isolation, and research indicates that students who experience a sense of belonging have a greater likelihood for academic retention and success. The impacts on students of an LMS designed for student employee orientation and training were examined through a mixed methods approach, including a survey, individual interviews, and focus groups. The sample involved 250-450 undergraduate student employees at a US northwestern university. The goal of the study was to find out the efficiency and effectiveness of the orientation information for a wide range of student employees from multiple student affairs departments. And unexpected finding emerged within the study in 2015 and was noted again as a finding in the 2017 study. Students reported feeling like they individually connected to the department, and further to the university because of the LMS orientation. They stated they could see themselves as part of the university community and like they belonged. The orientation, through the LMS, was designed for and occurred online (asynchronous), prior to students traveling and beginning university life for the academic year. The students indicated connection and belonging resulting from some of the design features. With the onset of COVID-19 and prolonged sheltering in place in North America, as well as other parts of the world, students have been precluded from physically gathering to educate and learn. COVID-19 essentially paused face-to-face education in 2020. Media, governments, and higher education outlets have been reporting on widespread college student stress, isolation, loneliness, and sadness. In this context, the author conducted a current mixed methods study (online survey, online interviews) of students in advanced degree programs, like Ph.D. and Ed.D. specifically investigating isolation and sense of belonging. As a part of the study a prototype of a Canvas site was experienced by student interviewees for their reaction of this Canvas site prototype as a "third" space. Some preliminary findings of this study are presented. Doctoral students in the study affirmed the potential of LMS as a third space for community and social academic connection.

Keywords—COVID-19, learning management systems, sense of belonging, third space.

I. INTRODUCTION

HIGHER education institutions internationally have experienced closed college and university campuses since March of 2020. This sudden shift to online learning came without warning, and impacted faculty and students in various ways. At the time faculty and most campuses were not set up for online learning. Students who were largely used to face-to-face classroom settings, labs with other students, and locations on and off their respective campuses to be with one another, were instantly faced with a very different reality for learning and living.

Coupled with social distancing, shutdowns of cities and towns alike, the challenges of isolation and mental health factors began to surface. In online and socially distanced environments, students have different and less opportunities to ask general question, share about life, create and share study groups, gather with peers outside of courses. Students struggle to find and make community during COVID-19. Space is altered and reconsidered in a pandemic world that is virtual and socially distanced. Not surprisingly, campus administrations faculty, and staff have considered and utilized the following: 1) social networking sites, however they are public, and information can be shared without permissions of an individual to the outside world; 2) emails, yet increased emails for students can be time consuming and overwhelming for students to go through, and 3) institutional websites, which can be overloaded with lots of information for varied populations, e.g., prospective students, parents or family members, admitted students, the public, etc. Sometimes students are not quite sure of what they need, or are looking for, which can make the websites less effective at times for students. It is in this context that the author suggests, with supporting research, that colleges and universities could reimagine the LMS in design and purpose. In this pandemic context on campuses, but where sense of belonging is critical even in usual times, and LMS site can be designed to provide a space that is academic and professionally social, one which satisfies student needs for connection, information, and even for gathering. The resource and student interest may be there for LMS third space design by and for students and readily sustainable.

A study [1] conducted in a northwestern US university in 2015, and replicated in 2017, utilized the LMS to provide new permanent university staff, an asynchronous, online, employment orientation for approximately 65 positions, in a multi-department organization, within a division of student affairs. Additionally, a new student employee orientation, asynchronous and online, for the same organization, for approximately 250-400 student employees, was designed and implemented. This study was designed as a mixed methods study, and received approval from the Institutional Research Board (IRB) at the university. The designer of the LMS was also the researcher. The 2015 study focused on the impact of

C. Van Wingerden is a PhD Candidate at Simon Fraser University, Burnaby, BC, Canada and employed in Woodring College of Education at Western Washington University, USA. (phone +1 360-319-7862; e-mail: vanwinc@wwu.edu).

World Academy of Science, Engineering and Technology
International Journal of Educational and Pedagogical Sciences
Vol:15, No:4, 2021

the following: 1) the ease and value of the information provided in the LMS modules, 2) the timeliness and relevance of the information, 3) reflection on job descriptions and university roles, and 4) reflection and identification of skills in these areas: a) cultural competence, b) technology, and c) key people and their organizational roles with whom the new employee would communicate, work with, and/or collaborate, d) time sheets, and e) location of services.

Some secondary features of the LMS were the use of various forms of media to represent student experiences within the organization, to share information, and organizational charts with pictures and recorded welcome statements to show students, the face and voice of staff and administrators in the respective organization and campus. Additionally, a student created gender-inclusive pronoun training, including why pronouns are important to recognize and use, building and campus safety plans, location of emergency phones, and student resources were included in the LMS modules. The 2017 replication of the study [1] included the variables, connectedness and belonging.

Voluntary individual interviews with students, and two student focus groups followed an initial participant satisfaction survey [1]. One focus group's experience, conducted with 10 student employees, who worked in a student leadership office (all 10 students identified as first-generation college students, some immigrants, some English as a second language students). This group was particularly pertinent to the study due to the university's and organization's goals of inclusion and diversity. The students offered comments naming "feeling a part of the department…organization…university" by the design features of the LMS site [1]. Additionally, these students mentioned that they used the LMS site, as a resource for information, they then shared with student peers. Overall, student employees found the resources and information helpful to themselves and to other students they encountered in their student employment positions, student friends, and student acquaintances.

This paper will focus on the results of [1] on the new student employment orientation from 2017, which was the replicated study of 2015. The value this study has for pandemic and post-pandemic online spaces, where university students, faculty, and staff are currently spending most of their time. Additionally, it would be naïve and lacking in future-oriented thinking, to believe that COVID-19 and the 12-18 months of online education will return campuses to the status quo of historical practices. Universities and colleges must continue to learn and prepare for where students already technologically reside, in so many ways, i.e., online spaces from their handheld devices, laptops, and computers [3].

II. BACKGROUND

A. Pandemic Times

One study [4] named this pandemic period in higher education as "unmasking the new face of education", referring to this period of time, 2020 to present, as "one of the largest educational experiments to date" (p.48). Technology,

educational technology, and how faculty, instructors, and staff utilize technology, is important to student consumers. Use and implementation will inform student experiences, as technology, the LMS, *is the classroom*, and a resource and tool for learning.

B. Handheld Devices and Online Learning

What is common knowledge is that young adults, including college students, rely on their ability to multi-task and have social presence in digital spaces. Certainly prior to COVID-19 there was the educators' perceptions that students, with cell phones in a college classroom, were prone to be a distraction to learning [3], [5], [6].

Smart phones are more common today, and students are able to access college courses, submit assignments, and participate in online class activities from these devices, as well as their computers [3, p.23]; [7]-[9]. These devices gain particular importance during the current time in history of COVID-19. The "radical academic change" [10], [3], [11], created by COVID-19, has moved learning and technological advances in smartphones and other technological devices more to the forefront of learning. Further, faculty and instructors, since the onset of COVID-19, may be finding their stride in how to intentionally and thoughtfully design courses, which mirror student use of technology while complementing student learning.

C. Social Media vs. LMS in Establishing Community

Studies have been done using Facebook instead of an LMS to create student community for a course [12], [13]. An argument for educational technology such as the LMS (Canvas, Blackboard, Moodle, etc.) is that it is licensed through the university. Only those who are invited, with a university email, can join that particular LMS site. Canvas addresses possible risk management issues, as student's privacy is protected from the outside world, unlike social media. Additionally, it is easier to find and organize materials and discussions on an LMS than a social networking site.

D. Sense of Belonging and College Students

Student users in [1] through interviews and focus groups, expressed a feeling of connection and belonging in the context of the asynchronous LMS orientation site. Throughout the year, students stated they found themselves sharing information and resources with other students from the LMS (Canvas) student employee orientation. Instructional strategies used in the Canvas course design, created interest and engagement of students through a multi-media format, whereby students' obtained information from other students', including a student designed training on gender pronouns (what they are, what they mean, and why they are important), and seeing photos of university organization and departmental staff as part of a welcome, engagement, and recognition tool. These were among some of the instructional design features that students reported created sense of belonging for them, a feeling of a community, and connection to place prior to physically coming to campus [1].

Sense of belonging is a basic human need according to [14].

World Academy of Science, Engineering and Technology
International Journal of Educational and Pedagogical Sciences
Vol:15, No:4, 2021

Further, studies, largely conducted on undergraduate students, link sense of belonging with retention of students through graduation [14]-[16]. Using an LMS with the intention of creating community for students who engage and participate in the LMS, can deepen sense of belonging for students [1], and consequentially, may add to the mission of universities for retention, inclusion and high graduation rates.

E. Third Space

The concept of third space has been in the literature and initially developed by [17]. This third space is an inclusive and co-created "hybrid space between two cultures" thereby creating an interdependency where students and faculty co-construct a "shared culture" [11]. The third space has been seen as a social justice space [17]-[19], [10]; however, the third space has not been studied in relation to educational technology. A "third space" for this paper/study [16] is a space that is not solely academic, nor solely personal, but the space in between. Social media has been studied as a third space that "emerges to set aside the 'either/or' manner of binary categorizing to encompass 'both/and also' logic that allows an 'Other' set of options" [20, p.399]. Through this study [1], [17], [21], we found that a third space can actually be something that is an in-between, which combines both the academic needs and/or informational needs related to the university, and the personal connection and interface for students, to the extent that the users want to build relationships and community with each other.

At the time of the first study (2015) and replication of the study (2017) [1], there were not studies done on an LMS as an orientation space or a space other than for academic courses. Since the onset of COVID-19, how the LMS is used and how it is set up is evolving. In the first study [1] students indicated their felt sense of connection; the second study [1] sought to follow up on sense of connection/belonging to more deeply understand what in the design and delivery fostered that sense of connection/belonging for these students.

F. Designing Canvas as a Third Space

The researcher/designer of the New Student Employee Orientation Canvas site (LMS) was intrigued with technology and social engagement, much like what occurs in social media. Students will willingly interact with social media frequently, often having more than one account. Social media also provides a way to post, comment, heart, emoji, and like, any time of day or evening – therefore, time zones and geographical location is not a barrier.

There was a distinctive challenge and opportunity in designing this Canvas course; while these were all student employees, in the 2015 focus groups, students indicated they felt there was class (a ranking order) involved based on the type of employee they were. In other words, some student employees were or acted like they were better than other student employees based on whether they were operations or student engagement. So, while the LMS was delivering information essential to all student employees, there were activities and interactive features which fostered working

across employee types and with various employee types, while at the same time encouraging students to participate in their own meaningful learning and context. According to [23] learner commitment is increased as students participate in what matters to them. Through activities that reached across employee type, the hope was the feeling of class amongst groups of employees would decrease as they built relationships with each other and understood more about the organization, and where they fit in.

Secondly, a needs assessment was initiated through regular meetings with stakeholders. These meetings included the Assistant Director of Operations, Assistant Director of Student Activities, student personnel director, supervisors of various types of employees, and a student government board of director, a staff person from the finance office, and two students who were current employees. By involving stakeholders of the New Student Employment Orientation site, the needs and structure wanted, became apparent. It was important to understand the needs of the student employee supervisors, the finance office, the personnel office, the information that should be included, and the students themselves. Through the involvement of stakeholders, everyone had an investment in the online orientation success, and would be a needed strong support to engage students to participate later in the orientation modules.

Based on the participatory needs assessment approach [22], the design was through a social constructivist lens, co-creating content with stakeholders, thereby embedding an investment and ownership of the group. As modules were created, an outline was presented to the stakeholders for input. In this way the 10 modules were developed, and then piloted with approximately 20 students.

There were approximately six meetings to determine content and modules. From there each module was designed according to Gagne's [24] nine levels of learning, Bonk & Graham's [25] blended learning, Smith and Ragan's [26] instructional design, and Kolb's [27] experiential learning model. The orientation modules allowed students to engage with the content at a time of day or day of the week that was most convenient for them. It was encouraged they complete at least one module per day, and they also could choose their own pacing with the orientation. Through activities (discussion boards, crossword puzzles, quizzes, matching, and other recall type instruments), one could get a sense of the student's grasp of the material. Additionally, there was monitoring of the Canvas site in order to get back to students quickly, and provide further resources and support if needed. At the end of the 10 modules, there was an evaluation so that we could continue to refine content and online delivery, and ensure hyperlinks, materials, instructions were updated, accessible and understandable to the student learner.

III. STUDY

A. Study Purpose

The study purpose was to evaluate 200+ student experiences using a Canvas course as an asynchronous, online

World Academy of Science, Engineering and Technology
International Journal of Educational and Pedagogical Sciences
Vol:15, No:4, 2021

training and orientation site for student employees, prior to their fall academic start. At the time, students were required to come to campus early, which often meant increased housing and living costs, loss of income from summer jobs, and an overall dissatisfaction with the student employee orientation, once they got to campus. This asynchronous, online new student employee orientation was designed to mitigate these real losses for students, thereby eliminating the need for an early return to campus prior to fall start.

B. Methodology

Keeping with a social constructivist paradigm, a mixed methods study was implemented for this project. As the needs assessment was participatory and collaborative in nature, the social constructivist paradigm was seen as the best fit. The design, study and instruments went through the approval process of the university IRB, received IRB approval, and was implemented.

The setting was a pacific northwest US university. The population studied were students who were employed in a student affairs division, in the departments of student union operations, student activities, student governance, leadership, student outreach services, and outdoor recreation. Exclusion criteria were non-student employees, and student employees who were not in one of the departments within the designated student affairs organization at the university. The study was a mixed methods study.

Participants completed a questionnaire that had demographic questions, questions related to the information on the Canvas site, and whether it was understandable, useful, and delivered well.

The researcher conducted qualitative interviews with 6 students and two focus groups, of 10 students each in 2017 [1]. An incentive for a $20 amazon gift card was provided to participants. The researcher wanted focus groups, in order to allow students to hear others' experiences and, to be able to observe how the students interacted with the online orientation, and each other. The researcher hoped that as students shared in a focus group, it would increase participation by other students.

C. Results

The interviews and focus groups were transcribed verbatim, and analyzed for themes. The themes are as follows:
- *Connection*
a. to campus
b. to staff and supervisors
c. seeing oneself as part of the community
- *Engagement*
d. videos and media of other student employees
e. new and relevant information about campus
- *Relevance*
f. timesheets
g. job description overview
h. virtual tour of campus
i. identifying emergency procedures and location of outdoor campus emergency phones

j. going back to the Canvas orientation as a resource for information for themselves
k. sharing information they learned with other student acquaintances, friends, and those students they interacted with in their jobs
- *Inclusion*
l. pronouns
m. feeling and being part of department/organization

The information compiled from student participants were collected at the end of spring quarter (June, 2017) from an online orientation the previous fall (September, 2017). One thing that stood out from the data [1] was the long-lasting relevance of the Canvas orientation. Data highlighted two points; referring back to the Canvas orientation as a resource for themselves, and as a resource to share information with others. Secondly, the impact for students, as the first point of *connection* rather than first point of contact, was evident in the data. The asynchronous *connection* fostered in them feelings of being "a part of", a sense of belonging. Another revelation was in utilizing students to teach students and/or share or show students was more powerful, and had a greater impact on their belonging and learning. Additionally, seeing pictures and hearing voices of welcome, from university personnel (their supervisors, the university staff in their departments and the larger organization) was seen as welcoming and gave them a sense of introduction. Finally, the organizational charts for each department with a photo of the employees also fostered a sense of connection to the department and organization as a whole.

D. Limitations

Limitations of the study were that students often suffer from survey fatigue, especially since they have classes, jobs, and sometimes personal or family obligations. The study was conducted in Spring, and even though the orientation is continuous for new student employees hired after fall, it might have been more advantageous to conduct the study in the fall, more immediately after the majority of students had gone through the orientation. This immediate assessment in Fall of 2017, might have elicited increased participation in the survey, interviews, and focus groups.

IV. CURRENT RESEARCH

A study [2] is being conducted with doctoral students at a regional tier one Canadian university to determine whether an LMS can serve as a third space for doctoral students, with impact on diminishing isolation and belonging (or not). Research on doctoral students seems warranted as this population has the least amount of research on sense of belonging than other groups of students. Additionally, attrition rates are high and this study seeks to discover if there is a correlation between attrition rates and isolation.

Related to the LMS as a "third space", overwhelming all doctoral students interviewed (22 interviewees) saw the prototype of Canvas as a connection point for doctoral students, an unmet need, something they would use, and/or participate developing in sharing their own experiences and

World Academy of Science, Engineering and Technology
International Journal of Educational and Pedagogical Sciences
Vol:15, No:4, 2021

knowledge [2].

V. Future Implications

All over the world in academia, much has been learned from the pandemic, in particular to learning and online environments. Mental health has been a concern regarding social distancing, online learning, and college students. Perhaps by intentionally designing a "third space" in online LMS spaces, we can institute something at our colleges and universities, that we already possess in educational technology, and utilize it in ways we have not been motivated to do before. Sense of belonging leads to greater well-being [14]-[16] of students, and could mitigate isolation and negative impacts on mental health. Future studies should explore educational technology, particularly in the common use of the LMS as spaces for more than courses and/or containers for course information.

VI. Conclusion

Belonging and mattering to a community in which you are educated may be more important now than ever before, given the pandemic. The college student experience, over the last year plus, has been riddled with social distancing, isolation, and learning online. This study showed the design of the LMS, Canvas, contributed to their sense of connection to a physical place and community, virtually. This was realized for students through their touchpoints of learning, experiencing Canvas as the place of learning and connection, and belonging, all occurring within the educational technology of the LMS. Providing "third spaces", utilizing the educational classroom of the LMS, may increase the matrix of relationships with others, bring familiarity to institutional buildings, and spaces of importance, and play an important role in student academic socialization.

References

[1] C. Van Wingerden (2015, 2017) Institutional Review Board approved (study unpublished) LMS As A Student Employee Orientation: A Central Point of Information and Community. Western Washington University, Bellingham, WA. USA.
[2] C. Van Wingerden (2021). Doctoral students' peer belonging in a world of social distance and isolation: Identifying needs and perceptions of Canvas as a Third Space. (in process, unpublished data). Simon Fraser University. Burnaby, BC, Canada.
[3] C. Van Wingerden, A. Lidz., AJ Barse, J. DeMark, & D. Hamiter (2017). Bring your own device (BYOD): The power of the tablet to pocket size mobile device on learning and assessment; possibilities and impacts on university faculty, students, and staff. In V.C.X. Wang (Ed.), *Handbook of research on learning outcomes and opportunities in the digital age* (pp 483-510). Hershey, PA: IGI Global.
[4] S. Lall, & N. Singh (2020). Covid-19: Unmasking the new face of education. *International Journal of Research in Pharmaceutical Sciences 11*(SPL)(1), 48053. Uttarakhand, India: JK Welfare & Pharmascope Foundation.
[5] E. Dahlstrom, & D.C. Brooks (2014). *ECAR Study of Faculty and Information Technology, 2014.* Research report. Louisville, CO: ECAR, July 2014. Retrieved from http://www.educause.edu/ecar
[6] C. Jones, & G. Healing (2010). Networks and locations for student learning. *Learning Media and Technology, 35*(4), 369-385.
[7] J. DeGraff (2014, June 16) Digital natives vs. digital immigrants. *Huffington Post.* Retrieved from http://www.huffingtonpost.com/jeff-degraff/digital-natives-vs-digita_b_5499606.html
[8] M. Prensky (2012). Introduction. In M. Prensky (Ed.), *From digital natives to digital wisdom: Hopeful essays for 21st century education* (pp. 1-10). Thousand Oaks, CA: Corwin
[9] M. Prensky (2009). H. sapiens digital: From digital immigrants and digital natives to digital wisdom. *Innovate, 5*(3). Retrieved from http://www.wisdompage.com/Prensky01.html
[10] D. Tapscott (1998). *Growing up digital: The rise of the net generation.* New York, NY: McGraw-Hill.
[11] J. Jobe, & M. Coles-Ritchie (2019). Creating third space through critical interactions in a high school: Examining Latin@ students' experiences in neocolonial society. *NABE Journal of Research and Practice 7*(1), 142-185.
[12] Q. Wang, H. Woo, C.L. Quek, Y. Yan, M. Liu (2012). Using the Facebook group as a learning management system: An exploratory study. *British Journal of Educational Technology, 43,* 428-438.
[13] Q.Y. Wang (2008). A generic model for guiding the integration of ICT into teaching and learning. *Innovations in Education and Teaching International, 45*(3), 411-419.
[14] A.H. Maslow (1943). A theory of human motivation. *Psychological Review, 50*(4), 370-396.
[15] T. Strayhorn (2019). *College students' sense of belonging: A key to educational success for all students, 2nd Edition.* New York, London: Routledge, A Taylor & Francis Group.
[16] T. Strayhorn (2012). *College students' sense of belonging: A key to educational success for all students.* New York, London: Routledge, A Taylor & Francis Group.
[17] H.K. Bhabha (1994). *The location of culture.* Psychology Press.
[18] H. Carlone, & A. Johnson (2012). Unpacking "culture" in cultural studies of science education: Cultural difference versus cultural production. *Ethnography and Education 7*(2), 151-173. Taylor & Francis Online.
[19] H. Yazdiha (2010). Cultural hybridity: Reimagining the collective. *Formations: The Graduate Center Journal of Social Research, 1*(1).
[20] C. Edirisinghe, R. Nakatsu, A. Cheok, J. Widodo (2011). Exploring the concept of third space within networked social media. In J.C. Anacleto, S. Fels, N. Graham, B. Kapralos, M. Saif El-Nasr, K. Stanley (Eds.), *Entertainment Computing-ICEC 2011,* pp. 399-402. Springer, Berlin, Heielberg.
[21] M. Baldwin, & L.A. Keefer (2019). Being here and now: The benefits of belonging in space and time. *Journal of Happiness Studies, 21*(8) 3069-3093.
[22] J.B. Cousins, & E. Whitmore (1998). Framing participatory evaluation. In E. Whitmore (Ed.), *Understanding and practicing participatory evaluation (New directions for evaluation, No. 80,* pp. 3-23). San Francisco: Jossey-Bass.
[23] G.D. Kuh (2001). Assessing what really matters to student learning: *Inside the National Survey of Student Engagement*, Change: The Magazine of Higher Learning. 33:3, 10-17, doi: 10.1080/00091380109601795. https://doi.org/10.1080/00091380109601795
[24] R. Gagne, L. Briggs, W. Wager (1992). *Principles of instructional design (4th ed).* Fort Worth, TX: HBJ College Publishers.
[25] C.J. Bonk, & C.R. Graham (2012). *The handbook of blended learning: Global perspectives, local designs.* John Wiley & Sons.
[26] P.L. Smith, & T.J. Ragan (2004). *Instructional design.* John Wiley & Sons.
[27] D.A. Kolb (1984). *Experiential learning: Experience as a source of learning and development.* Englewood Cliffs, NJ: Prentice-Hall.