

Transcript for Student Learning Experience During the COVID 19 Pandemic: Implications for Learning Design

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YODAN ZHANG:

Good morning, and thank you so much for this opportunity to share our study we did at the end of the pandemic. The study we did is we investigated learning experience during the pandemic. Because at that time, we feel like there is a need to identify any support we will need to create more effective learning environment when we move beyond the pandemic. And we would like to put the focus on learning design issues. So at the end of the pandemic, Oleg and I sent out survey questionnaires to BCIT students and recent graduates. The survey has two sections. Section one is about 10 questions that address some demographic information such as types of enrollment at BCIT and some general learning experience questions. Section two is the Community of Inquiry questionnaire that has 34 items to collect students feedback about online learning, online learning design. We got close to 700; 696 students participated in the survey. To increase the availability of our study, we had seven criteria to filter the responses. Of all the data cleaning, we ended up having 351 participants left, which is included in... Their responses were included in the data analysis for this presentation.

This is the demographic information about the participants, So majority of them, 61% had various levels of experience with online learning before the pandemic, and as we can see, the major format for online delivery was synchronous sessions, which usually is using Zoom.

One of the key questions we had in section one is about the helpfulness of course component. And this question we adapted from a question in the SFU survey.

Here is the result. So the top five course components were assignment, labs or shops, video, recordings, live sessions, and self-quizzes. We were interested in group projects. But unfortunately this component was rated relatively low even though it shared the same characteristic of assignment. The overall result showed very similar. It showed a lot of similarities with the SFU result. I'm not sure whether we have SFU colleagues here. Also, the last three, all the interaction channels, online interaction channels, they were rated low, which indicates maybe the live sessions satisfied our students' needs for interaction with their peers or with the instructors. Or they may have other solutions to interact, other methods to interact with their peers.

Another key question for section one is we asked the participants to choose the most challenging aspect of their learning during the pandemic. And you can see the level of motivation ranks number one, followed by the feelings of stress. Not enough time to do coursework. Interesting enough is the quality of education was not the top one or the highest one, or the issues with technology were not significant.

We did a group comparison between the groups who enrolled in BCIT programs before the pandemic with those who enrolled in the BCIT programs during the pandemic. The difference was significant when they pick up the most challenging aspect of the learning. We can see for those who had a sudden delivery change during the learning, motivation was super high, it was the most challenging aspect. But for those who enrolled during the pandemic, they didn't experience a sudden delivery change. Then the major issue is about how to organize their learning, online learning.

We also studied the community of inquiry perspective of the pandemic learning design. I will turn to my colleague Oleg to share.

OLEG LUNGU:

Thank you. Can we go to the next slide? I think most of you probably are well familiar with this framework, Community of Inquiry Framework. It includes social presence, cognitive presence, and teaching presence. The framework was proposed, as you know, by a few people from Alberta, but has been used in online research for quite some time. And it's well regarded and was validated. So for us it was important because the framework gives you a rather comprehensive view of what's happening in the online environment during these courses. For those of you that are less familiar with the framework, the teaching presence refers to structure and direction that the faculty provide for students. The social presence serves as the environment where students engage in productive and collaborative inquiry. Then cognitive presence refers to students' construction of meaning by engaging in community discourse with challenges, beliefs, considers alternative perspectives, and negotiate understanding. As you probably have noticed, this is a constructivist approach to education, which is something that we share with you then. But also it's helpful because, like I said, it provides a rather comprehensive picture of what's happening in the environment. It's good also to figure out to draw some conclusions about the student experience. Next slide, please.

When we looked at the data, like Youdan said, the framework and the instrument that was developed for this framework consists of 34 Likert scales and then the framework also, each of the presences is divided in subcategories. You see in the teaching presence we have design and organization, facilitation, direct instruction. And then in the social presence, you see we have the effective aspect, open communication, group cohesion. In the cognitive presence, we have four subcategories, triggering event, exploration, integration, and resolution. It was interesting for us to see that the highest subcategory was the design and organization of the course. For us, this was just an indication that most of the faculty at BCIT had quite extensive experience on using the Learning Hub, on structuring content, and also, this is my belief that the Learning and Teaching Centre and the Educational Technology Group did a brilliant work in supporting faculty to structure their own online courses in a way that was easy for the students to follow, to understand when there are quizzes, when there are lectures and so on. The second highest rated subcategory, you see, is resolution. That also probably is not surprising because you've seen that the highest course component that students rated was assignments. This is interesting because BCIT is focused mostly on applied education. Obviously the fact that

students rated the highest was assignments. And then you remember the second one was labs and shops. We did have some labs and shops running during the pandemic. And obviously it makes sense that resolution, because a lot of teaching that faculty we're doing applies to real-life problems, real-life challenges. You see the next subcategory in cognitive presence is integration. Integration aspect is also very important because it means that faculty provided enough opportunities for students to integrate the knowledge that they were gaining through different other sources like live sessions and probably other learning materials. The lowest one you see is effective communication. It's interesting because socialization in online learning plays a very important part in how students view the course, how the students view the learning in the course. But also, we know from other studies that there is a difference between programs, between demographics, how students socialize in the online environment. And I think this is very relevant as we move forward with the general theme for this conference. Next slide please.

We also ran some correlation analysis between the course components and the subcategories for the community of inquiry. You see some of the correlations that were interesting. For instance, live sessions, obviously, correlates mostly with the teaching presence. Then assignments correlates quite a bit with cognitive presence. Interestingly enough, group projects also correlates quite a bit the cognitive presence but also teaching presence. We don't have time to discuss this in more detail, but I think this is quite a bit of data that is interesting as we work on designing learning environments for students. Youdan, over to you.

YUDAN:

We also were interested in how students collaborate online during the pandemic. We have a few questions, particularly about collaboration.

Very interesting to find that the majority of our students have more than three or more projects during the pandemic. Those who had more group projects had higher rates on the group projects as a course component compared with those who only had one or two.

It looks like the more projects they have, the more preference they have for the group projects component.

We also did the comparison between two groups. One group is they have self-organized online collaborative learning groups, and the other one they didn't have. Okay, about 51% students participated in self-organized online collaborative groups. The ratings on the community of inquiry presence are different. And the difference is significant. It looks like participating in self-organized learning groups improves the student's perception of learning during the pandemic. Maybe that could be a reason why they rated three interaction channels in the course component low because they have their own solutions.

Lessons learned. Number one, we think we will need to review or redesign the good projects to improve the learning experience. Or find a way to use interactive channels more effectively. Or

have more facilitation strategies used for online learning. We also need to encourage instructors to take a more discovery-based learning approach and allowing more time for connecting existing knowledge with the new problems and exploring potential solutions. Because if you remember the rating for the cognitive presence subcategories, they were low for the first two, then they progress higher to the resolution items subcategory. Also, we need to pay attention to the motivation and time management issues for online learning. That's all for our presentation. If you have any questions, please.

BRITT DZOBIA:

Thank you so much Youdan and Oleg. I think there is a question in the chat from Reye, who asked, "Are the stats on level of motivation for online engagement?" I'm assuming published somewhere online. Her colleague is interested in that area.

YOU DAN:

We have the stats. We category the frequency for those who rate for level of motivation as the most challenging aspect of learning.

That's the stats and the group comparison also involves the level of motivation. We can share the paper we have if someone is interested and please email us at.

BRITT:

Then there's another question from Jens in the chat, "I wonder if the lower group project rating might also be related to the way the groups are facilitated. That'd be tricky to tease out but worthwhile looking into." I guess it's more of a comment than a question.

OLEG:

Yeah, I think that's a good observation because we all have seen student feedback complaining about group projects. Part of the challenge, the way I understand it, is that the way group projects are facilitated. My personal opinion is that students that had three or more small group projects, they weighted group projects as more helpful because they have figured out how they can collaborate with their peers and how they can learn from the group projects. Students that haven't figured out yet or they had fewer projects and they haven't figured out how to collaborate, it's a real challenge for them, so they rate group projects as really low, although we have seen that assignments for them was one of the highest rated course component. That's my personal opinion.

YOU DAN:

Also, if you look at the correlation between the group project and the presence of communicative inquiry, both the teaching presence and resolution. This is the teaching presence and cognitive presence correlate relatively higher. Which means that the success in group projects related with the instructions instructors provided for the group project.

BRITT:

We have two more comments in the chat. Andrew said, "I was interested to see how low interactivity was rated in courses with a big synchronous component. I wonder if asynchronous interactivity that expands upon face- to-face interactivity would be better rated? Or perhaps it's not worth building asynchronous interactivity into a largely synchronous course?"

OLEG:

Yeah, that's a very good question. Because what we see, we see that 50% of the respondents, they self-organized in self- study groups of some sort. The faculty didn't do anything for the students to self-organize. They see the value of working together in groups, but then the challenges. Why didn't they do that within the learning environment, Within the options that were created, hopefully by the faculty? There are different ways to look at it. I think we would need to be more granular about how we figure out why students don't see them as important in the online environment as... in the online courses, sorry, as opposed to when they organize themselves. Youdan, do you see it differently?

YOUDAN:

Yeah, I just felt that students rely on the live sessions for knowledge transformation. But they have their own way to interact with the peers. This is a similar result, as I said, like I remember SFU got this very similar result for this question.

OLEG:

It's interesting that students that self-organized in groups, they rated social presence higher than students that didn't self-organize. It was also interesting that we have full-time students and part-time students. Full-time students, they go through the program in a cohort format. They see each other, they take the same courses, but we have seen that part-time students that maybe interact with each other in just one course, they also self-organize in groups which is also interesting. Y

YOUDAN:

Correct me if I'm wrong, Oleg, I remember we also run the correlation between... we also look at the rating for course component for these two groups. I remember it's also the same result, students who participate in self-organized learning groups, they rated the course component relatively higher. Which means when they self-organized themselves, they actually have a better perception of learning for overall course rating.

OLEG:

It could be that students that are more motivated, they would make the effort to self-organize in the groups as opposed to students that are less motivated. Because the impact on all aspects is so significant, just the fact that they self-organized in groups.

BRITT:

Thank you so much. There's another question from Judy in the chat which is, "What ideas do you have on how you might change the design of group projects?"

OLEG: Okay, I'll... Go Youdan.

YOUDAN:

It probably not much information we get not much from this study, but based on my experience as instruction development consultant working on program reviews, we realized we really need to help instructors to design the group projects. It's not just tell them this is the projects you need to work on. We need to help the students to set up time milestones, design very clear instruction, because some of the projects that so long, the description of the project so long and it's not very organized information, so well-designed instruction for the projects, set up milestones, and set up, even think about breakdown the assessment for individual milestones. That's probably the number one thing we would need to do.

OLEG:

What I have seen is that many group projects, faculty focus on the outcomes of the project as opposed to... And they probably need to pay more attention to the process. Obviously that takes more time on the instructor, but the process is sometimes as important as the final, how do you call it. Final artifact.

BRITT:

We have one more question here from Sally, which is, "Just to clarify in this survey, is it possible that some students in a course may have self-organized into groups, while other students in the same course may not have done so? Or was the self-organization part of the course's requirement?"

OLEG:

No, it wasn't part of the course requirement, it was just students' initiatives.

YOUDAN:

Yeah, The question is just a yes or no question. Did you participate in self-organized groups during the pandemic? Because when we designed the questionnaire, we heard some very good feedback about self-organized learning groups. We would like to know more about it. We put that question in the questionnaire and the result was like, wow, interesting.

OLEG:

Also we had other questions like students were asked to rate how collaborative their courses were. We see a difference. Some courses were very collaborative, but it didn't lead to students participating in self-organized groups. And the other way around.

YOUDAN:

Yeah, we may have another presentation about that because there is too much data to present in one.

BRITT:

Thank you so much. I don't know if anyone has any more questions.

OLEG: Thank you.

YOUDAN: Thank you.