Teaching Culturally and Linguistically Diverse International Students in Open and/or Online Learning Environments: A Research Symposium

Open Learning Designs and Participatory Pedagogies for Graduate Student Online Publishing

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Abstract

Our open educational resource initiative amplifies co-design as a key element of open educational practice that supports graduate student learning in an online master's program. We designed learning activities that helped students explore the ubiquitous influence and complexities of technology within a participatory pedagogical culture. Students investigated many ethical and technological issues that confront learning communities and developed, and published, chapters in a peer-reviewed open access textbook. Interview and survey data collected from students were analyzed, along with instructor reflections, course design, and

learning artifacts. Our research provides useful themes and insights on the practices and impact of participatory pedagogical approaches to open and online learning designs for diverse graduate students' co-design of open educational resources in higher education. Inviting graduate students into co-design relationships empowers and engages diverse learners as active agents in knowledge building, instead of reducing them to passive recipients of information.

Keywords: Open learning design, co-design, participatory pedagogy, open educational resources, online graduate education, higher education

Introduction

Instructors and students who embrace open learning designs and scholarship in higher education join a growing community. Open scholarship is the creation and dissemination of educational resources that are accessible through open licence and at no-cost (El Khatib, 2019; Karunanayaka & Naidu, 2017). Open educational initiatives often include adopting and using open educational resources (OERs), created using open scholarship (Tlili et al., 2021). Although descriptions vary, open education practices (OEPs) tend to refer to participatory pedagogies in digital learning environments within open learning ecosystems (Havemann, 2020).

Networked communities of researchers and practitioners (e.g., Open Education Global) are increasing the awareness of open learning ecosystems by engaging in advocacy for openness through global forums and events (e.g., Open Education Week Canada, Open Education Consortium) and through open scholarship. The use of the term, open, is steadily growing in use and is "like the proverbial snowball gathering size as it rolls" (Conrad & Prinsloo, 2020, p. 1). Karunanayaka and Naidu (2017) argue that "a critical attribute of open educational practices (OEP) is the pursuit of open scholarship, which comprises the release of educational resources under an open licence scheme that permits no-cost access, use, reuse, adaptation, retention, and redistribution to others" (p. 1).

We describe an OER initiative to amplify co-design as a key element of OEP with graduate students in an online master's program. Knowledge building theory (Bereiter & Scardamalia, 2010) frames our inquiry and practice. We aim to contribute to the discourse on open education initiatives and practices in higher education. We examined students' co-design of learning pathways in online courses, designed with open learning and participatory pedagogies as cornerstones. Our open learning designs resulted in students' online publication of an OER, in this case, an open pressbook. One research question framed our study: How are graduate students supported in open and online learning and the development of research-based skills?

Literature Review

This review encompasses key concepts in open learning designs, OEP, open scholarship, student co-design, and participatory pedagogies. Open learning design and participatory pedagogies offer a powerful combination for a high-quality learning experience in online graduate courses. In an open learning design, instructors and students are often situated as co-designers in the learning process (Barbera et al., 2017; Paskevicius & Irvine, 2019). Learners are invited into active roles as producers of knowledge alongside the instructor. Co-design is an authentic student-centred learning experience requiring reflective teaching practices (DeRosa & Robinson, 2017). Gee (2005) described empowered learners in video gameplay as co-designers based on the principle, "Good learning requires that learners feel like active agents (producers) not just passive recipients (consumers)" (p. 6). Empowered learners in an online classroom can also be positioned as co-designers using this same principle, and in education, "co-design means ownership, buy in, engaged participation" (Gee, 2005, p. 7). Expanding on Gee's (2007) principles of learning, Jahnke et al. (2020) studied how students work together in interactive groups and found students who co-design can extend their learning beyond the structures and framework of one course.

Open educational practice (OEP) is an emerging pedagogy characterized by the development of openness for working with others, use of participatory technologies, encouragement of innovation and creativity, open sharing of ideas and resources, facilitating learner's contributions to open resources, engagement in connected communities, and embodied in reflective practice and contributing to open critique of other's scholarship (Hegarty, 2015). Research documents increased student engagement and agency when supported with participatory pedagogies and involved in co-design of OERs (Flinn, 2020; Katz & Van Allen, 2020; Werth & Williams, 2021). Open learning activities can include co-designing a course syllabus, writing for a Pressbook, creating a Wikipedia entry, or producing a video, to name a few (Hilton & Wiley, 2019; Paskevicius & Irvine, 2019).

Our open learning design informed the creation of conditions for student co-design and knowledge building in a community that "requires practitioners to move beyond a focus on access to OER, to a more comprehensive view about [the] creation and integration of OER, in order to make a difference in the teaching learning process" (Karunanayaka & Naidu, 2017, p. 2). Co-design intersects with participatory pedagogies used by instructors, and explicit expectations that students become active agents of their learning.

A theory of knowledge building (KB) for idea improvement in community informed the participatory pedagogies in support of students' co-design in open learning contexts (Bereiter and Scardamalia, 2010). In KB communities, the collective work of learners and teacher(s) is "improving the *knowledge itself*, rather than the contents of students' minds" (p. 8). KB communities are characterized by a high level of agency and intentionality, real ideas and authentic problems, and pervasive, constructive engagement in democratic KB dialogue. Schwartz and Fischer's (2003) focus on learning in collaboration with peers, course instructors and external experts through knowledge *building,* the creation of original and shareable artifacts, versus knowledge *borrowing* from pre-selected content, in service of disposable assignments assessed only by the instructor, which informed the creation of conditions for students' co-design of OERs that contribute to community knowledge beyond course assignments.

Methods

We were interested in designs for open learning that supported students' collaborative creation of OERs and the impact of co-design on engagement and agency. Our team employed a design-based research approach (McKenney & Reeves, 2019) to analyze and explore the problems of practice, conceptualize and develop the program-based open learning design, implement and test solutions in practice, and evaluate and reflect on the analysis and synthesis of data to produce usable knowledge and theoretical insights to inform broader contexts and discourses. We recruited from a cohort of 12 students engaged in a four-course graduate certificate between July 2019 and June 2020. After the final course, eight students completed an anonymous online survey about activities that supported their learning. A subset of these students (n = 5) and their instructor participated in interviews to provide individual perspectives on their learning experiences. Interview and survey data were analyzed, along with course design and learning artifacts. Analysis included descriptive statistics from quantitative survey data and iterative cycles of reviewing and coding textual responses to open-ended survey questions and transcripts of interviews (Miles et al., 2014).

Results

Our key argument emerges from analysis of open learning in an online graduate program and how the intentional co-design, participatory pedagogies and responsive and flexible conditions for online learning were found to enhance personal learning pathways for students. Iterative online learning designs focused on four key topics that highlighted building relationships, co-designing learning pathways, building and sharing knowledge and expanding personal learning networks (Roberts, 2019). Students selected their own topics, then wrote and peer reviewed draft chapters on ethics and technology as the major project. External social networks and expert feedback loops expanded the learning community beyond the cohort. Final works were used for assessment, but students were not required to publish.

OEPs provided flexible options and expanded possibilities for student engagement and learning in this graduate program. Students appreciated opportunities to develop research skills through layered assignments and multiple rounds of peer review, editing, and revising their research and academic writing. Students acknowledged the impact of COVID-19 on personal and program experiences, yet emphasized how the online learning spaces and OEPs allowed their work to continue relatively undisrupted. Students valued opportunities for self-reflection and idea-sharing using shared online spaces and microblogging, as well as their increased awareness of OEPs to use beyond the program. The instructor emphasized how OEP offers a promising approach for connecting, collaborating and communicating with learners online, and for creating the conditions for meaningful, authentic and respectful learning and teaching relationships and engagements within the program. Students' academic work and investment in this Pressbook extended beyond the end of the program.

Results demonstrate how OEPs supported students' co-design of open learning processes. Nine students elected to contribute chapters to a Pressbook (Brown, et al, 2020). Engaging in the co-design of an OER ensured that students were accountable for their learning processes, and promoted the value of making learning visible, by communicating and collaborating online with peers, the instructor, professional colleagues and outside experts. The OER students produced, and the participatory pedagogies that supported this work, provide contextually rich examples of how OEP can enable authentic learning experiences with opportunities for graduate students to receive feedback from multiple sources (e.g., peer groups, instructors, outside experts, alumni), while developing research-based skills. The key findings of open learning design demonstrate the balance between product and process within course-based learning experiences. The balance includes an open student-designed final product (like a pressbook chapter) with the transparent and visible learning processes (reflection, feedback loops, and scaffolded participatory activities).

Discussion and Conclusion

Co-design among students, their instructor, and members of the research team surfaced themes about open learning design, participatory pedagogies, and student engagement in post-secondary learning contexts. Key findings include the important role that OEPs play in cultivating student agency via collaborative creation of digital artifacts, sharing and building knowledge, and sponsoring and integrating social media activity across each course. The key finding about student engagement was the importance of developing instructor and student relationships, inviting deep reflective practices for students, supporting peer feedback and review

cycles, enhancing collaboration and interaction with peers, colleagues, and experts beyond the course, and making personal connections to course topics beyond formal learning contexts.

Although co-design of an OER can be an empowering experiential learning process for students and instructors, the process can be complex, and requires significant planning, infrastructure, and expertise from a multidisciplinary team. Most importantly, both students and instructor(s) must be open to learning and collaborating in new ways. In our project, this involved using new digital authoring/editing tools, reaching out to a broad network of experts for feedback, and presenting works-in-progress to peers and outside experts at various stages.

The team behind this project included educators and researchers with expertise in OEPs, participatory technologies, co-design and learning design; undergraduate and graduate research assistants with skills in digital authoring tools and copyediting; a librarian with proficiency in copyright, licensing, and discovery; and a professional copy editor. The project's success depended on a collaborative approach and coordinated efforts within a design-based research methodology.

To publish an OER, and make it widely discoverable, we relied upon access to the Pressbooks content management system provided through Open Education Alberta (OEA), a collaborative, no-fee service offered to post-secondary institutions across the province. OEA is widely indexed by search engines, and is included in the larger Pressbooks' Directory, which is quickly becoming a key discovery portal for OER. The Pressbook was also submitted for inclusion in other Canadian OER portals, such as BC Campus and eCampus Ontario.

Using a design-based research (DBR) methodology was instrumental for co-designing, enacting and studying innovative OEPs (Karunanayaka & Naidu, 2017; McKenney & Reeves, 2019). DBR principles and practices facilitated the implementation and evaluation of educational innovation. Our diverse team of researchers and practitioners were engaged in collaborative conceptualization of the purpose and learning objectives in the graduate certificate, and then in iterative design of each course, including the "Ethics and Technology" course most connected to the co-design of a Pressbook. Implementation of open learning designs and participatory pedagogies occurred in an authentic and dynamic context: a professional graduate program that was fully online, and enabled us to capture real-world interactions while documenting the impact of external influences (COVID-19). Multiple methods of data collection and analysis were integrated to increase the robustness and credibility of study findings. Ongoing reflection and conversations about OEP, research-based learning, and student engagement produced dense descriptive data, and engaged the team in systematic analysis and interpretation as part of the comprehensive review of the graduate certificate, teaching and learning processes, and co-design of learning products and outcomes.

Our study highlights how the open learning design combined with DBR offered a flexible framework to respond to abrupt changes in higher educational practices using multiple learning modalities. Findings can inform instructors and institutions on creating the conditions for OEPs, and engaging instructors in creating high quality, online learning experiences to support students in co-design. Findings contribute to the growing field of open learning designs, participatory pedagogy, and student co-design in online professional graduate programs.

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