




Co-Creation During a Course: A Critical Discussion and Reflection

Laura A. Killam 
Cambrian College

Lillian Chumbley 
Trent Online, Trent University

Susanna Kohonen 
Language Centre, University of Eastern Finland

Jess Mitchell 
Inclusive Design Research Centre, OCAD University

Jim Stauffer 
Retired Adult Learning Specialist in Educational Technology

Abstract

Co-creation is an open practice where learners participate in decision-making about aspects of course design, which in our context has included various activities from course design to assessment decisions. After the OTESSA22 conference, this group of conference attendees reflected on co-creation practices and experiences in their respective post-secondary contexts. In this article we share reflections and challenges with co-creation as well as ideas to potentially overcome these challenges. This article, with examples shared from practice, serves as a starting point for ongoing dialogue about inclusive approaches to co-creation.

Keywords: co-creation, co-design, co-learning, open pedagogy, open educational practices

Correspondence:

Laura A. Killam
School of Health Sciences, Nursing,
and Emergency Services, Cambrian College
School of Nursing, Queen's University
School of Nursing, Nipissing University

Email: [l.killam \[at\] queensu.ca](mailto:l.killam@queensu.ca)



Authors retain copyright. Articles published under a [Creative Commons Attribution 4.0 \(CC-BY\) International License](https://creativecommons.org/licenses/by/4.0/). This licence allows this work to be copied, distributed, remixed, transformed, and built upon for any purpose provided that appropriate attribution is given, a link is provided to the license, and changes made were indicated.

Introduction

Co-creation is an open practice that engages learners and educators in shared decision-making about any aspect of course design, from setting aims to achieving the aims, to activities, work modes, and assessment practices. Engaging a whole class of learners in co-creation may liberate learners to think critically about the role they play in their own education, decision-making about how they learn best, and the power dynamics at play in traditional classrooms. Co-creation can help learners develop their evaluative judgement as they build a practice that requires decision-making, agency, reflection, and authenticity (Killam, Camargo-Plazas, et al., 2023). These skills can support learners in challenging oppression and inequity in their own careers, lives, and communities. Involving students in decision-making also improves learner motivation and engagement in learning (Blau, & Shamir-Inbal, 2017; Deeley & Bovill, 2017). In our own open practices, we each have witnessed increased skill development, critical thinking, and autonomy among students through co-creation but we have also faced barriers to and criticism of its use. Co-creation is rarely constricted to just one method or to following any specific framework, and thus, it is a context-dependent practice. A few of the challenging contexts that require extra consideration and thought include fostering trusting relationships in large classes, promoting inclusion of diverse voices, and balancing teacher and learner workloads.

During the OTESSA22 conference, we invited multidisciplinary co-creators to explore strategies for lasting change in how co-creation is used in teaching practices. Even though co-creation can be a unique experience for each discipline, ongoing discussion of how to deal with potential barriers (i.e., student or institutional resistance to co-creation, privacy concerns, and technological infrastructure) may increase our collective readiness to embrace co-design as part of open educational practice, thus democratising learning and empowering future learners.

Bovill and Woolmer (2019) differentiate between co-creation *within* the curriculum and co-creation *of* the curriculum. In other words, students may be invited into, or may discover different ways to, participate in co-creation - either during a course (i.e., within the curriculum) or before a course begins (i.e., of the curriculum). The within-the-curriculum approach invites all learners to participate in the decision-making of a course as it is experienced (Bovill, 2020b). The focus of this article is on co-creation using a within-the-curriculum approach in a formal course setting.

The purpose of this article is to share a collective critical reflection on co-creation in a course context by a small group of educational practitioners. After a brief definition, we outline personal experiences as co-creators, and discuss the motivation for engaging their students as co-creators in a classroom context. Next, we examine some challenges to co-creation and suggest possible solutions to these challenges. We recognize that there is no one way to engage in co-creation and thus explore feasible strategies which may be used to facilitate co-creation.

Positioning

Conference attendees gathered virtually through a synchronous video session at the OTESSA22 conference and identified co-creation practices and problems. All conference attendees were invited by the first author to collaboratively edit a Google Document during the session and be named as authors on this article or be acknowledged for their contributions. This invitation occurred prior to editing the Google document. Participants did not need to contribute

to the document to be part of the discussion during the conference session. Participants could contribute while remaining anonymous. Those who wished to be acknowledged indicated so on the document. Conference participants who indicated an interest in participating in the collaborative writing of this article were invited to virtual follow-up meetings to discuss, outline, and write this article as authors.

Reflections in this article are drawn from authors after a conference discussion, including people who were registered as students, educators, and others who support learning. Conference participants identified as being from a variety of disciplinary backgrounds within educational settings ranging from adult literacy to graduate programs in the fields of Nursing, Education, English, and Theology. Roles were across academia and included those within faculty development, digital pedagogy support and development, academic research, and facilitation of learning. Conference attendees had diverse experiences with approaches to co-creation and technologies.

Defining Co-Creation in a Course

We believe that co-creation means sharing decision-making power with students. It is defined as working collaboratively with students in a deeply engaged way (Bovill, 2020a). An intentional focus on shared power during decision-making sets co-creation apart from other methods of engaging students in active learning. Learning may be contextual within co-creation, so it makes sense that co-creation may be defined differently in different contexts. As such, there is no uniform definition of learner-educator co-creation during a course. The amount of power that is shared, the way that power is shared, and the kinds of decisions that are made together can differ based on course context and learner needs. We contend that the fundamental principles of co-creation include (but are not limited to) breaking down learner-educator hierarchies to the extent possible in the course context, engaging learners, and offering co-creators choice regarding if, how, and when to engage in co-creation. We agree that co-creation is a partnership between learners and educators in making course design decisions. We argue that critical reflection by educators on how the definition of co-creation is communicated needs be conducted in a way that does not reinforce learner-educator hierarchies and is an important step in democratising education.

Practical Considerations for Learners

One reason for adopting co-creation as a pedagogical approach is, among others, the potential for a significant positive effect on academic performance (Doyle et al., 2021). We assert the benefits, challenges, and strategies of co-creation with a focus in the next section on learner engagement, improved relationships, and increased inclusion.

Learner Engagement

Increased learner engagement with course content is an important benefit of co-creation. An attitude of problem-solving as equals may also aid in improving learner-educator relationships. Engagement has been linked to improved overall student satisfaction and performance within learning (Groccia, 2018). The conference participants discussed engagement as something they strive to achieve in their classroom and co-creation as a means to improving learner engagement. Research shows that co-creation involves more in-depth involvement and agency for learners than other approaches to student engagement in active learning (Bovill, 2020b). While engagement is a benefit of co-creation, it is also a strategy for implementing co-creation.

To effectively support a co-creation project, engaging with learners is critical. Conference participants shared experiences and approaches to engaging learners including using online spaces for students to add input that everyone can see (such as a Padlet or Google document), using Pressbooks, and creating story booklets together. Learners are theorised to be more engaged when they feel autonomy in their participation (Cook & Artino, 2016). Autonomy was also highlighted by conference participants as an important element of co-creation and was linked to the benefits of engagement and empowerment.

Motivation becomes an important factor in keeping learners engaged (Lerdpornkulrat et al., 2018). One strategy to increase motivation is to invite learners to create personal purpose narratives as text, video, graphics, or audio to be shared with other participants in the course. Personal narratives may, with learners' consent, become part of a repository of exemplars of student work that may stimulate future learner motivation to engage in course content and co-creation. If the exemplar is co-created, then it becomes an example of what is possible through co-creation. This exemplar can be a useful starting point to encourage learners to begin contributing course content that has significance for other learners and supports the motivation of everyone to engage in co-creation.

While it is a vital component of open practice, engaging students in a course and during co-creation is also a complex endeavour. Cook-Sather (2019) states the importance of paying attention to individual, emotional, intellectual, and motivational factors that result in feelings of commitment and meaningful participation for learners. Successful student engagement is influenced by the socio-cultural context, including the student, teacher, institution, and political contexts (Ursin, 2019). There are many reasons why learners may choose to engage or not in co-creation. Barnacle and Dall'Alba (2017) argue that engagement should not be thought of as simply a measure of student performance but as an inclusive way to meet students' diverse interests. Furthermore, critical reflection by educators is required as to how this invitation is made in practice and what exactly students are being asked to commit to (Barnacle & Dall'Alba, 2017). Educators and facilitators must also respect students' choice not to co-create with educators during a course.

Strengthening Interpersonal Relationships

Attention to cultivating learner-educator relationships is important for co-creation to occur. Bovill (2020a) identifies the heart of co-creation as the learning that occurs between educators and learners. Bovill emphasises that trusting, respectful, and caring relationships with educators and between students is essential for this learning to be effective. In a system where current mainstream practices can alienate students, it can be challenging to establish trusting, respectful and caring relationships (Bovill, 2000a). Actions such as frequent communication and caring actions are foundational to building positive and caring relationships with students (Bovill, 2020a). We contend that the onus is on the educator to create an environment for relationships to be built, which can then lay the foundation for co-creation to occur.

Nurturing an atmosphere of openness requires trust. In a classroom setting, the educator has the ability to enable an environment where trust and openness can be established and built upon. Critical reflection on learner and educator actions, and self-awareness are cornerstones for building a trusting relationship. We have found that when we openly share our own struggles, trials, and errors pertaining to the learning environment or the process of learning and

teaching with students, that our openness is usually then reciprocated by learners. This openness, in turn, can create mutual trust and thus enable further collaboration.

We believe that educators can make power, systems of oppression, and critical reflection a focus of learning during debriefing with learners. It is our firm belief that the use of critical reflection on power with learners can further support openness in learning contexts. Critical reflection on power with learners can include acknowledging innate inequality in a course along with the desire to strive for equality during co-creation. We acknowledge that educators hold power that cannot be entirely given to students. For example, given how institutions are structured, educators hold a position with responsibilities such as submitting final grades that they cannot remove themselves completely from. Nevertheless, the process of how final grades are determined can be shared with learners through co-assessment (a form of co-creation).

Inclusion and Accessibility

While taking an inclusionary and accessible approach to learning is not a requirement of co-creation, we believe that ensuring accessible design is important in all learning contexts and environments. We contend that the work of democratising education cannot be effective if not all voices are heard, including those learners who may experience marginalization and may not be equally represented in a classroom.

We assert that the way in which we co-create can help to improve inclusivity and support Universal Design for Learning (UDL) (CAST, 2018). For shared responsibility for diversity and inclusion to work in practice within co-creation, fundamental elements need to be in place. These elements include ensuring safe spaces and inclusive design, which requires agreements to be established together with everyone within a co-creation project or course. Inclusion should be central for all co-creators, including both learners and educators.

Many countries and institutions have current accessibility standards to which educators must adhere. Educators may find it hard to keep consistent with current accessibility standards like Web Content Accessibility Guidelines (WCAG), which are universal standards for web-based content. Faculty often express challenges in making courses and materials accessible due to a lack of experience, knowledge, and resources (Chen et al., 2018). When co-creating, taking steps to ensure accessibility of the materials and tools, and also the final product, can be especially challenging with input coming from a number of co-creators.

Accessibility can be part of the co-creation process, ensuring that all participants agree to be responsible for supporting accessibility within the course. Shared responsibility can be created by working out guidelines within the collaboration for minimum standards and using community agreements. There may be institutional support through the accessibility office on educating the group on standards or the availability of an accessibility audit of the final product. The educator should also ensure careful selection of tools to support access and use by all participants, which we discuss further in the section on practical considerations.

The principles of UDL align with the evidence-informed practices for implementing co-creation (CAST, 2018). Co-creation provides opportunities for learners to exercise autonomy in how they choose to interact and represent their contributions. Ensuring a wide range of options on how students can contribute and consume information throughout co-creation can be valuable in

meeting UDL standards while providing an engaging experience for learners. For example, students may contribute during class discussions synchronously or in alternate formats. They may also submit work in different ways, such as graphics, videos, or text.

We have already demonstrated the importance of engagement as a key strategy of co-creation, and it is worth restating that this strategy aligns well with the UDL principle of multiple points of engagement. UDL standards recommend providing choice within a topic or project to stimulate interest and motivate learners. This choice can include options for exploring individual interests within a larger topic or allowing learners to select specific areas or roles that align with learner interests.

UDL principles require that learners are provided with multiple forms of representation. In preparing the materials for learner-educator co-creation, educators should ensure there are different ways for learners to consume the information, including instructions and background materials. Educators may consider adding additional background information to support those learners who would benefit and feel encouragement from additional readings and materials. Providing readings, videos, and instructional guides can also support learners in this way (CAST, 2018).

UDL further recommends providing choice in how learners express their contributions (CAST, 2018). This choice most commonly includes providing opportunities for learners to determine their own format of submission for graded components. It can also include opportunities to create alternative formats within the co-creation. Some examples shared by the conference participants included choosing to submit music, videos, art, or written academic formats. We have heard from many educators who are reluctant to use multiple forms of expression over fears of complexity and time requirements. We have had personal successes using rubrics that focus on goals and outcomes rather than a specific format of contribution. This type of rubric can support an instructor in grading multiple formats for an assessment.

We emphasise the importance of inclusion in supporting the voices of people who may experience marginalisation. Ensuring diversity within learner representations and contributions requires that underrepresented members are able to be heard even as they are often the minority of contributors. Educators should therefore be cautious and avoid making decisions based on the largest number of votes for a decision. We believe that using standards of engagement that are recommended within Diversity, Equity, and Inclusion (DEI) and anti-oppression research is one way to support all voices being heard. Inclusion of all voices can involve establishment of shared power between learners, critical reflection, and purposeful discussion on topics of diversity and anti-oppression (Valcarlos et al., 2020).

Practical Considerations for Educators

We explored many practical concerns and considerations for educators who are facilitating co-creation. We focused on concerns we have experienced in our own practices and contexts as well as those in literature and experiences we had heard from others. Considerations that are addressed in this paper are related to institutional policy and perception, facilitator workload, and technology selection and use.

Institutional Considerations

Educators can benefit from institutional support to engage in co-creation. This support can be achieved through conversations with administrators and peers as well as becoming familiar with academic literature that supports co-creation. Program-level discussions may be helpful to prepare students with the skills needed to engage in co-creation (such as communication and self-assessment). We believe that when multiple educators can work together to support open educational practices that the experience in one course may not stand out as different or shocking to learners.

We reflected on concerns we heard expressed and our personal experiences in recognizing that the perception of peers and administrators within an institution or department was a significant consideration for them, as faculty, to implement co-creation within their course or program. Comparison of instructors by students who do and do not support co-creation within the same program, and even across programs, can be problematic. We acknowledge that there may be a perception that co-creation could be viewed by peers or department heads as being less academically rigorous than conventional teaching methods. We disagree and believe that co-creation, when done well, can be more rigorous than other teaching methods and can prepare learners for necessary advocacy work.

Instructional Facilitation Factors

One strategy that can support community and diversity within the co-creation process is community agreements. These are a set of ground rules which are agreed upon prior to the start of the co-creation process (Marquart & Verdoone, 2020). While these agreements can include general preferences like not typing in all capitals or a particular citation method, they are more likely to include statements of inclusivity and decorum. Community agreements can be valuable tools in supporting the psychological safety of participants. Community agreements should include methods to support the voices of anyone who may experience marginalisation such as monitoring of resources as well as regular check-ins and debriefs of content that may be sensitive or emotionally significant.

In our experience, co-creation is often a new experience for students, and it may take time for them to understand what educators or facilitators are asking of them, and how co-creation works. Building relationships and skills takes effort and time. We estimate that it takes approximately four weeks to establish the relationships and open communication needed for co-creation to flourish in both online and in-person courses.

During co-creation it is constructive to consider how decisions made will impact workload for both students and educators. Taking the time to involve learners in decision-making may mean that it takes more time to come to a decision, but it can also lead to improved student understanding. Better understanding can decrease the time spent focusing on the course, assessment, and community expectations. We agree that co-creation does take more time for learners, a fact that should be explicitly stated at the outset.

An honest conversation with learners about life-work balance for everyone involved helps to role-model self-care as well as keep the course manageable for all (Killam, Lock, et al., 2023). Sometimes during co-creation of assessments, students may suggest excellent but time-

consuming ideas. It is important to remember that students and educators have responsibilities external to the course. When students feel too engaged in learning, they may need to be reminded to keep the scale of the assignment appropriate for the learning outcomes in a course. Honest conversations about how much time the educator has available to provide feedback may also be useful to help guide discussions about how and where feedback best supports student success. A collaboratively developed strategy to integrate ongoing feedback on coursework for learners may prevent educators from focusing their efforts on strategies that are not beneficial or used by students. Educators can draw on their knowledge of best practices to guide these discussions, while students can draw on their self-assessments to identify what would be most useful to them.

We acknowledge that fostering trusting relationships becomes more challenging as class sizes increase but maintain our belief that co-creation remains possible through honesty and openness in communication. Conference participants stated that it remains possible to build trusting relationships and engage in some co-creation even with larger groups. As one participant pointed out, social influencers (such as those on YouTube or Instagram) are able to engage very large audiences in a way that makes viewers feel like they know and trust the influencer. In a large class, there is less space for individual discussions with students. However, decisions can be guided by multiple sources of learner input. For example, learners can be invited to comment on a live document, email messages, meetings, and class discussions. Decisions can be made in groups of various sizes through both anonymous and identifiable means of communication. For example, larger group discussions can be supplemented with open-ended surveys. Surveys can anonymously capture additional information that learners did not feel comfortable sharing during class. These responses can be used to inform decision-making.

Technology

The types of software that work well for collaboration can sometimes be challenging or time-consuming to learn and to use. The wide variety of available tools can make it difficult to select the correct technology for the task, and each institution may only support some tools. Selecting the correct tool is felt to be critical for a smooth development and facilitation process. While all software and programs only work well for some co-creation projects, considering the functionality, usability, availability, and final output of a given technology can help facilitators select the best one for a given application.

We believe that tools selected for co-creation should not be evaluated based on the number of features; a more complicated tool is often inappropriate. More features can make the tool more difficult for instructors and learners. Tools should be selected based on their ability to do a necessary task (MacKnight & Balagoplana, 1989). Educators should identify the tasks that they and the learners will need to complete (Ritter & Blessing, 1998), which will help identify minimum requirements before exploring options in detail (Locatis & Al-Nuaim, 1999).

We contend that tools must be easy to use and understand, based on the incoming skill level of the co-creators. Software that takes a lot of time to learn and to develop the resource requires additional support staff and educator time - increasing the cost of co-creation to the institution and increasing the workload on the educator. We assert that tools should require only minimum training to complete basic tasks in the co-creation process. Learners who experience frustration

in using a tool are less motivated to continue to engage with the learning process and express poor satisfaction with experience (Novak, 2022)

As co-creation requires all participants to be able to access and edit resources and the technical tools or software used to create the resource, the availability of the software is critical to the ease of co-creation. We have experienced challenges with learners not being able to access and work on the same computer systems, which leads to incompatible file sources, which can create barriers to learner participation. We feel that ensuring compatible and shareable file sources is even more important if a project has learners from different institutions that each may have different levels of permissions to internal systems.

We argue that the cost of potential software is a barrier, especially when developing open education resources. Even if an institution has a low-cost educational licence for the software already available, we are concerned that sometimes these resources are only accessible to support or IT staff or limit the creation of open resources for use within an institution.

Discussion

This piece is a reflection by the authors on what decisions instructors and administrators make that can ultimately contribute to learner engagement and agency: co-creation accomplished through learner agency, inclusive technology choices, diverse representation, openness achieved through trust-building, sensitivity to the cascading impacts of any decision within the realm of instruction and learning. Each of these areas have an impact on learner engagement and outcomes. This area within our pedagogical practices deserves greater attention, critique, and analysis.

The benefit of co-creation is that it can engage many different perspectives in a single discussion. We contend that there are several other topics and nuances of co-creation which could have been discussed but that were outside of the scope of this paper. As such, this article should not be considered exhaustive in terms of benefits, challenges, opportunities, or perspectives of co-creation. That said, we believe this work can be a starting point for further research and exploration.

A common theme throughout the article and related discussions is the interconnectedness and overlapping nature of co-creation strategies, evidence-based pedagogical practices, UDL, DEI and anti-oppression standards. We contend that co-creation is a strategy to foster an inclusive learning environment. Across contexts, we recommend that educators can start by developing trusting relationships with learners in their approaches to co-creation.

We argue that co-creation is a teaching method with many learner benefits. It is our hope that institutions take a larger role in supporting and encouraging co-creation as a way of nurturing innovative teaching practices in their classrooms. Prioritising inclusion, openness, dialogue, and collaboration in learning environments should become part of an institution's culture. As a starting point, even before incorporating co-creation *within* or *of* the curriculum to courses, Bovill and Woolmer (2019) suggest critical reflection and open discussion on what educators even mean by *curriculum*, *learning*, or *teaching*, with colleagues.

In closing, we are conscious of the need to avoid generalisation and have attempted to provide a balanced discourse which presents our opinions as well as research perspectives that support

these arguments. A paucity of research on co-creation makes it challenging to support some of the opinions shared in this paper. However, we feel that it is important to share these thoughts, given our hope that this article can be a call for further work in this area and that this discussion will continue as we endeavour to discover new ways to engage learning in an inclusive way.

Authors' Contributions

LK and JM conceptualised and facilitated the initial conference discussion. All authors subsequently participated in discussions, drafting, and critical review of this paper. Integration of diverse perspectives was supported by LK and LC during revision of the initial draft. The final paper was approved by all authors.

Open Researcher and Contributor Identifier (ORCID)

Laura A. Killam  <https://orcid.org/0000-0001-5075-444X>

Lillian Chumbley  <https://orcid.org/0000-0003-0236-4521>

Susanna Kohonen  <https://orcid.org/0000-0002-9561-0842>

Jess Mitchell  <https://orcid.org/0000-0002-5873-2170>

Jim Stauffer  <https://orcid.org/0000-0002-1561-772X>

Acknowledgements

We would like to thank everyone that contributed to the discussion during the conference, including Helen DeWaard and others. We would also like to thank learners from a variety of roles in education that have shared ideas with us about how to improve co-creation experiences.

Ethics Statement

Ethical approval was not applicable since it is not a research study. We did not ask for a waiver or confirmation from a review board as it was not required. We can contact the editor to discuss this further if needed.

We offered authorship or acknowledgement to everyone who attended the conference. We were explicit in our Google Document used to guide the discussion data that we would be using notes to reflect on further in our writing for publication.

Conflict of Interest

The authors do not declare any conflict of interest.

Data Availability Statement

Not applicable.

References

- Barnacle, R. & Dall'Alba, G. (2017). Committed to learn: student engagement and care in higher education. *Higher Education Research & Development*, 36(7), 1326-1338. <https://doi.org/10.1080/07294360.2017.1326879>
- Blau, I., & Shamir-Inbal, T. (2017). Re-designed flipped learning model in an academic course: The role of co-creation and co-regulation. *Computers and Education*, 115, 69–81. <https://doi.org/10.1016/j.compedu.2017.07.014>
- Bovill, C. & Woolmer, C. (2019). How conceptualisations of curriculum in higher education influence student-staff co-creation *in and of* the curriculum. *Higher Education* 78(3), 407–422. <https://doi.org/10.1007/s10734-018-0349-8>
- Bovill, C. (2020a). *Co-creating learning and teaching: Towards relational pedagogy in higher education*. Critical Publishing. <https://www.criticalpublishing.com/co-creating-learning-and-teaching>
- Bovill, C. (2020b). Co-creation in learning and teaching: The case for a whole-class approach in higher education. *Higher Education*, 79(6), 1023–1037. <https://doi.org/10.1007/s10734-019-00453-w>
- CAST (2018). *Universal Design for Learning Guidelines version 2.2*. <http://udlguidelines.cast.org>
- Chen, W., Sanderson, N.C., & Kessel, S. (2018). Making learning materials accessible in higher education - attitudes among technology faculty members. In Craddock, G., Doran, C. & McNutt, L. (Eds.), *Transforming our world through design, diversity and education* (pp. 87-97). ISO Press. <https://doi.org/10.3233/978-1-61499-923-2-87>
- Cook, D. A., & Artino, A. R. (2016). Motivation to learn: An overview of contemporary theories. *Medical Education*, 50(10), 997–1014. <https://doi.org/10.1111/medu.13074>
- Deeley, S. J., & Bovill, C. (2017). Staff student partnership in assessment: Enhancing assessment literacy through democratic practices. *Assessment and Evaluation in Higher Education*, 42(3), 463–477. <https://doi.org/10.1080/02602938.2015.1126551>
- Doyle, E., Buckley P. & McCarthy, B. (2021). The impact of content co-creation on academic achievement, *Assessment & Evaluation in Higher Education*, 46(3), 494-507. <https://doi.org/10.1080/02602938.2020.1782832>
- Groccia, J. E. (2018). What is student engagement? *New Directions for Teaching & Learning*, 2018(154), 11-20. <https://doi.org/10.1002/tl.20287>
- Killam, L. A., Camargo-Plazas, P., & Luctkar-Flude, M. (2023, in press). Learner-educator co-creation: A case for enhancing authentic assessment in nursing education. *The Canadian Journal for the Scholarship of Teaching and Learning*.
- Killam, L. A., Lock, M., & Luctkar-Flude, M. (2023, in press). Principles for equity-centered learner-educator co-creation: A reflection on practice and pedagogy. *The Journal of Educational Innovation, Partnership, and Change*.
- Lerdpornkulrat, T., Koul, R., & Poondej, C. (2018). Relationship between perceptions of classroom climate and institutional goal structures and student motivation, engagement and intention to persist in college. *Journal of Further and Higher Education*, 42(1), 102–115. <https://doi.org/10.1080/0309877X.2016.1206855>
- Locatis, C. & Al-Nuaim, H. (1999). Interactive technology and authoring tools: A historical review and analysis. *Educational Technology Research and Development*, 47(3), 63-75. <https://doi.org/10.1007/BF02299634>
- MacKnight, C., & Balagopalan, S. (1989). An evaluation tool for measuring authoring system performance. *Communications of the ACM*, 32, 1231-1236. <https://doi.org/10.1145/67933.67940>

- Marquart, M., & Verdooner, E. (2020). Strategy: Co-creating Classroom Community Agreements. *The Journal of Faculty Development*, 34(3), 87-88.
<http://proxy.lib.trentu.ca/login?url=https://www.proquest.com/scholarly-journals/strategy-co-creating-classroom-community/docview/2478112833/se-2>
- Novak, E., McDaniel, K., Daday, J., & Soy Turk, I. (2022). Frustration in technology-rich learning environments: A scale for assessing student frustration with e-textbooks. *British Journal of Educational Technology*, 53(2), 408–431. <https://doi.org/10.1111/bjet.13172>
- Ritter, S., & Blessing, S. B. (1998). Authoring tools for component-based learning environments. *Journal of the Learning Sciences*, 7(1), 107-132.
https://doi.org/10.1207/s15327809jls0701_4
- Valcarlos, M. M., Wolgemuth, J. R., Haraf, S., & Fisk, N. (2020). Anti-oppressive pedagogies in online learning: a critical review, *Distance Education*, 41(3), 345-360.
<https://doi.org/10.1080/01587919.2020.1763783>