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About Us

Currents in Teaching and Learning is a peer-reviewed, open-access electronic journal that fosters exchanges among teacher-scholars across the disciplines. Published twice a year since 2008 (typically one issue in fall, one in spring), *Currents* seeks to improve teaching and learning in higher education with short reports on classroom practices as well as longer research and theoretical articles related to pedagogy.

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EDITORIAL

"*Currents* in Context: Bridging Pedagogical Histories and Futures"

—Riley McGuire

Dear readers of *Currents in Teaching and Learning*,

To begin, I'd like to introduce myself as the new editor of this journal. My name is Riley McGuire, and I am a faculty member in the English Department at Worcester State University. I started my work with *Currents* in the summer of 2024, taking over from my incredible colleague, Dr. Brittany Jeye, who began the process of putting this issue together. Since 2008, *Currents* has facilitated instructional improvement and innovation in higher education across disciplines through the publication of dynamic research—I am thrilled to continue this mission.

As I thought across the five articles within issue 16.2 – the work of educators from six different countries and from twice as many academic disciplines – what came to mind as a common thread was their emphasis on refreshing teaching practices to meet the needs of the present. (Again, I'm an English professor, so bear with me for some etymology…) Our journal's title, *Currents*, evokes both an adjective and a noun. If something is designated as "current," it is contemporary, of the present moment. But when we turn to the probable origins of "current" in Latin and French words for the running or flowing of an entity, we remember that "current" is not only a descriptor of the here and now, but also a term for the progress or direction of various phenomena. Whether referring to water, electricity, or socio-historical affairs, a "current" indicates the course of something as it moves across time and space, thereby suturing the present to the past and future.

Across our fifteen years of publication, the scholarship in this journal has done justice to the duality inherent in its title, evaluating the efficacy of contemporary modes of teaching as well as considering how long-established educational practices can evolve to fit the ever-changing realities of college instruction and learning. In other words, *Currents* explores what is happening in higher education's present – the instructional "flow" animating any particular moment – but also reaches backward and looks forward to contribute to an overarching narrative of pedagogical development. Today, this balancing act feels more pressing than ever. The shifting demographics and aspirations of our students demand it. The rapid emergence of new technologies with profound impacts for learning requires it. The contemporary political climate in the United States and beyond – one that is increasingly hostile to many of the core aims of higher education – necessitates it.

Issue 16.2's contributors exemplify this commitment to updating past practices for the benefit of our present and future students. Collectively, they offer strategies for meeting the current demands of higher education by considering: our affective orientations as instructors (Offenbach), the language we adopt to transmit knowledge (Blaauw-Hara et al.), the teaching materials we utilize (Conroy and Kidd), how we prepare students for life beyond the classroom (Nelms), and how to better connect our research and teaching to broader social concerns (O'Sullivan et al.). Across these essays, the authors tackle some of the timeliest issues for university instructors—from techniques to improve online courses to approaches for generating learning experiences with real-world applicability.

In the opening essay, "Thinking Past the Portal: Threshold Concept Metaphors for Diverse Learners in Disparate Disciplines," Mark Blaauw-Hara, Sheliza Ibrahim, David Gerstle, Christopher Eaton, and Sarah Seeley invite us to reimagine metaphors for threshold concepts (TCs) to be responsive to our students' diverse, intersectional identities. TCs – a core idea within a field of knowledge that transforms one's understanding of that field – have long been analogically rendered as a door to open, a portal to enter, a threshold to cross. Instead,

Currents in Context *continued*

this interdisciplinary group of scholars encourage us to craft new metaphors for TCs that will enrich the learning process. They both offer a compelling array of examples from their own instructional practices – a video-game tutorial, a lakeside, a dialogue, and more – and provide a useful framework for how other educators can develop their own metaphors for TCs.

Seth Offenbach, in his article "Kindness and Community in an Online Asynchronous Classroom," similarly draws our focus to the power of language to improve educational outcomes, specifically in online asynchronous courses, which have been durably popular following the COVID-19 pandemic. Under the rubric of the "pedagogy of kindness," Offenbach outlines how we can infuse social generosity into our syllabus creation, deadline setting, and communication styles to aid learning. As he reminds us, an asynchronous modality does not exempt us from creating a compassionate learning environment but rather magnifies our need to do so. Importantly, he advocates for proliferating the modes through which students can engage with their instructors, while being mindful of protecting instructor time as well.

In "Engaging Students in Critical Thinking During Online Learning," Amanda Nelms also turns her attention to student engagement online, though with an emphasis on synchronous courses. Specifically, she details her use of Google Docs and breakout rooms as tools to incorporate consistent student interaction into online classes, deconstruct student learning outcomes, and avoid a stultifyingly repetitive lecture format. Because these tools are familiar to students, they allow learners to focus on course content. Ultimately, Nelms shows how these technologies can help cultivate social competencies useful for students in their future vocations and communities.

Siobhan O'Sullivan, Gonca Ongan, Helka-Liisa Hentilä, Netta Iivari, Tonja Molin-Juustila, Banu Liman, and Nilay Kavur comparably examine learning that exceeds the classroom context in their piece, "Towards a Collaborative Approach and Structure for Engaged Research." They present community-engaged teaching as a reciprocally beneficial way to bridge the gap between the at-times perilously abstract work of scholarly research and communities external to the academy. In their case studies from three different national contexts, they provide concrete instances of how to transform university courses into opportunities to comprehend and contribute to issues of vital public importance. Dynamic collaboration between instructors, students, and community stakeholders undergirds all of their examples, which are likewise united by their dual ability to benefit college campuses and society writ large.

Finally, Dom Conroy and Warren Kidd's article, "Optimizing Practitioner-delivered Podcasts as Learning and Teaching Tools in Higher Education: Learner and Teacher Viewpoints," proffers the podcast as a way to enhance inclusivity and accessibility, a key aim for many educators. By collecting feedback from both students and instructors on podcasts for learning, they provide an overview of key considerations for making podcasts effective educational tools: using clear language, straightforward signposting, and intuitive structure; carefully considering the appropriate duration; integrating podcasts with other learning materials; and ensuring that each podcast is responsive to a range of learning needs.

To close, I want to express my thanks to those who make *Currents* possible. First and foremost, I am grateful to my predecessor as editor, Dr. Brittany Jeye, whose organizational prowess and generosity have made these transitional months much smoother. The support of Dr. Hank Theriault and Dr. Emily Soltano remains invaluable. I appreciate the insight of the *Currents* Operations Advisory Committee, and that of Julie Habjan Boisselle in particular. Shawn Needham has done a terrific job stepping into the role of graphic designer. The time and expertise of our peer reviewers are essential to every issue. Lastly, my first months with the journal have been made far easier and a lot more enjoyable by collaborating with our phenomenal inaugural interns, Ashley Harvey and Rhiannon Mansur. Their keen eyes and crucial perspective as students have strengthened this issue, and *Currents* as a whole.

Sincerely,

Riley McGuire

ESSAY

Thinking Past the Portal: Threshold Concept Metaphors for Diverse Learners in Disparate Disciplines

—Mark Blaauw-Hara, Sheliza Ibrahim, David Gerstle, Christopher Eaton, and Sarah Seeley

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Abstract

In the early 2000s, Jan Meyer and Ray Land argued that disciplinary knowledge could be thought of as "threshold concepts" (TCs): specific, definable ideas that learners need to master to become experts. As implied by the word "threshold," Meyer and Land suggested that educators think of TCs as portals through which students pass as they learn disciplinary knowledge. Our teaching experience in multiple disciplines has led us to question what the threshold metaphor reveals and occludes for educators and students. We begin this article with a general discussion of metaphors and their social construction, including how metaphors influence thought. We then present additional metaphors that may be used to supplement (or even replace) the portal/doorway metaphor and suggest ways metaphor can be used to teach specific disciplinary threshold concepts. Our goal is not to challenge the idea of threshold concepts but to argue that metaphor should be explored beyond the portal/door suggested by Meyer and Land. We also argue that the process of working across disciplines to discuss and propose threshold-concept metaphors can be a productive way for faculty to develop a deeper understanding of this important pedagogical framework.

Keywords:

threshold concepts, university pedagogy, writing studies, information science, mathematics

In the early 2000s, Jan Meyer and Ray Land (2005, 2006) argued that disciplinary knowledge could be thought of as specific, definable ideas that learners need to master in order to become experts. Mastering these "threshold concepts" (TCs) would lead to "a transformed way of understanding, or interpreting, or viewing something without which the learner cannot progress" (Meyer & Land, 2006, p. 3). As implied by the word "threshold," Meyer and Land suggested that educators think of TCs as "portal[s]" through which students would pass as they learn disciplinary knowledge (Meyer & Land, 2006, p. xv). Many subsequent authors have substituted the more common metaphor of "door" or "doorway" for Meyer and Land's "portal" to discuss TCs (e.g., Davies, 2016, p. 124; Holmwood & Scales, 2019, p. 65; Monteil et al., 2019, p. 859; Mosurinjohn, 2021, p. 80), but both metaphors rely on the relatively quick transition between one space and another through some connective opening.

Threshold concepts have proven to be of great utility to the scholarship of teaching and learning (SoTL). Although specific disciplines have their own TCs, the larger TC framework is cross-disciplinary. Just over the past decade, *Teaching & Learning Inquiry*, an international SoTL journal, has published articles focusing on TCs in literary studies (Corrigan, 2019), women and gender

studies (Hassel & Launius, 2017), and problem-solving skills (Wismath et al., 2015). Other SoTL-focused journals have featured scholarship exploring how TCs can support critical thinking and reflection (McLean, 2009), educational leadership (Webb & Tierney, 2020), undergraduate business communication (Getchell & Lentz, 2020), computer programming education (Kallia, 2020), and more. One reason the TC framework has been so generative for SoTL researchers is that it is learner-focused: Meyer and Land (2005) argued from the start that TCs could help faculty members design curricula that were more focused and accessible for students. TCs become a course's center of gravity, so to speak, around which smaller facts and concepts revolve.

For example, in their articulation of a framework for educational developers to use to help faculty across the disciplines engage with TCs, Timmermans and Meyer (2019) note that "*effective teaching focuses on promoting student learning* [italics in the original]," and they urge educational developers to take "a learning-centred, rather than teaching-centred approach" (p. 355). This focus on learners is present in the vast majority of the TC scholarship we consulted. However, existing scholarship also acknowledges that, as Timmermans and Meyer point out, teaching from a TC approach is difficult: "There is initial excitement as a teacher first hears of TCs, identifies possible TCs, and shares this 'discovery' with colleagues. But then, a sense of frustration or bewilderment might set in. What must now be done with these TCs? What effect does this 'discovery' have?" (p. 354). We hope that this article will be helpful to faculty members who wrestle with these questions.

TCs are difficult for students as well. Many TCs challenge students' prior knowledge and tacit understandings (Meyer & Land, 2006, pp. 9–13). TCs may represent different ways of looking at the world than students are familiar with, and they may be articulated in language that, because of its discipline-specific lexis, is difficult for students to understand (p. 14). These challenges mean that most students take some time to learn TCs, passing through a "liminal period" in which they are aware of a given concept but have not yet mastered or internalized it (p. 22). To return to the doorway metaphor, this liminal period might be conceived of as a student peering through a doorway, or perhaps setting a foot on the threshold, but not yet passing through.

As educators, each of us has found the TC framework to be powerful. The five of us have degrees in disciplines ranging from the sciences to writing studies, education to information literacy. We have taught a wide variety of undergraduate and graduate courses, and the TC framework has pushed us to consider the key concepts of our courses, helping us think at a more macro level than just skills or practices. It has also helped us better understand why some students may struggle with course material, and why sometimes it can seem like students are moving backwards for a time as they work to integrate new ways of thinking and doing. And for us, as faculty members, the doorway metaphor serves as a recognizable way of thinking about learning.

Is It Time for New Metaphors?

Despite our own comfort with it, we find ourselves questioning what the portal/doorway metaphor suggests about the nature of threshold concepts. Modern students are probably more familiar with portals in fantasy/sci-fi movies and video games, where they often serve as something akin to wormholes that instantly transport participants from one location to another. The fantasy/sci-fi usage of "portal" does not connote any significant liminality; similarly, when we walk through a doorway, we pass quickly and fully into another space—but does this accurately represent what happens when we learn? Learning is enormous, complex, deep, and expansively riddled with twists, turns, steps back and forward, and so on, entailing myriad complex cognitive changes that could occur instantaneously, over a semester, or over years.

To be sure, Meyer and Land, as well as the many scholars who have expanded upon their framework, readily acknowledge that learning is complex and individual, and that mastery of threshold concepts is usually not quick or linear. For example, Meyer and Land spend a significant amount of time discussing Turner's concept of liminality in terms of identity construction and life-stage transitions, noting that "Turner adopted the term 'liminality' (from Latin *limen*, 'boundary or threshold')," and acknowledging that liminal states are seldom comfortable and tend to extend over time (Meyer

Thinking Past the Portal *continued*

& Land, 2005, pp. 375–380). In fact, they briefly discuss how the doorway metaphor may not evoke the depth of liminality that can be experienced by learners:

> The metaphor of the threshold, of course, conjures the architectural space of the doorway, a transitional point or intersection rather than a space. Thresholds may be seen in this way as leading the learner on through a transformational landscape in a kind of epistemological steeplechase, towards a pre-ordained end….Liminality, on the other hand, offers less predictability, and appears to be a more 'liquid' space, simultaneously transforming and being transformed by the learner as he or she moves through it. (pp. 379–380)

As educators, we are intrigued by the second part of Meyer and Land's point—that liminality is liquid and unpredictable—and we agree that the metaphor of a portal or doorway does not fully represent the rich process of learning that the TC framework ultimately encourages. Timmermans (2010) poses that the liminal space is a pedagogical tool, positioning a learner not necessarily toward grasping this-or-that kernel of knowledge, but pointing them toward an uncertain opening where one learns how to learn. That is, "the purpose of education is much less about fostering growth in what learners know than facilitating development of the ways in which they know" (p. 14). Further, Land et al. (2018) argue that diverse ways of learning demand an educator's attention to the ways that thresholds are experienced. They write, "liminal states can vary with the learner…and so the teacher must somehow be aware of the nature of the individual learner's liminal state" (p. 208). A diversity of metaphors for introducing learners' new experiences thus enriches an educator's practical toolkit.

Metaphors are ideologically mediated and rely on our familiarity with the part of a metaphor to which a new concept is linked. For example, we invite readers to picture a situation where someone asked a colleague how a meeting went, and they replied, "Yikes! That meeting was a dumpster fire!" The understanding of that metaphor—the appreciation of how bad the meeting was—would rely on a familiarity with dumpsters and an ability to imagine a trash fire within one. It is relatively easy to see how culturally situated that particular metaphor is, and how it might be difficult to understand for some.

In the case of TCs, the "threshold" as part of a doorway has meaning for all of us, yet we are all of similar ages and hail from North America. In contrast, we have found that the word "threshold," applied to a portal or doorway, is largely unfamiliar to traditional-aged university students. As an informal experiment, we have asked multiple sections of writing students in the United States and Canada whether they were familiar with the word "threshold" as a part of a doorway. Almost none were. Instead, they associated "threshold" less with a physical doorway and more with how the word has been used as a metaphor in other contexts, such as a "threshold for admission" to university. While this is, of course, an accurate sense of the word "threshold," it does not connote the same things as Meyer and Land intended.

We also situate this article in the broader context of teaching and learning in higher education. Considering the diversity of our students' backgrounds, we believe it is wise to choose metaphors that speak to their experiences. Students bring diverse, intersectional ways of being and thinking to our courses. They want to find personal connections with their learning experiences. Similarly, their geographical, cultural, political, and historical knowledge systems shape their learning. All of this has challenged us to reflect on our teaching practice and reconsider how threshold concepts might be reimagined in our current contexts. Post-secondary enrollment in Canada has increased over the past 35 years, including an increase in Indigenous, Black, Francophone, LGBTQ+, and international students, along with students with disabilities, mature adult learners, and first-generation students (Strange & Hardy, 2016).

As Melinda Scott (2017) argues, "it is the increasingly interconnected nature of students' multiple identities that challenges us to reconsider the ways in which we are (or are not) appropriately supporting their success" (p. 201). Threshold concepts were introduced to university pedagogy nearly twenty years ago. In the intervening time, student demographics and universities themselves have changed; we have endured a global pandemic,

fiscal booms and busts, the growth of online and hybrid learning, and more. Given all this, we think the way we teach threshold concepts deserves another look.

The rest of this paper has several key sections. We begin with a general discussion of metaphors and their social construction, including how metaphors influence thought and social action. We then present three metaphors that could be used to help students understand the overall characteristics of threshold concepts. Our goal is not to challenge the idea of threshold concepts, but to suggest metaphors that connote the rich, messy process of transformative learning. Next, we explore how metaphor can be used to teach discipline-specific threshold concepts that, in our experience, students have found difficult to understand. Finally, we provide suggestions for how faculty members at other institutions might explore new metaphors in the teaching of threshold concepts.

Reimagining the metaphors used to teach threshold concepts can have important implications for scholars, teachers, and learners alike. In this article, the metaphors we suggest and the ways we discuss them are often situated in our own disciplines. That said, a metaphor that is useful in one context may be taken up, modified, and repurposed in another even if the disciplines are seemingly unconnected. Just as the portal/doorway metaphor was taken up across contexts—starting in economics and traveling broadly—the metaphors we present in this paper can also be adapted for disciplines and contexts beyond our own.

How Metaphors Reveal and Conceal

Metaphors have three main components: a *source*, or a concept or object that is relatively familiar to the audience; a *target*, which is the concept or object that is compared to the source; and a *mapping* between the two. Thibodeau et al. (2017) give the example of "crime as a virus," in which the source is "virus" and the target is "crime" (pp. 852–853). They point out that mapping crime as a virus suggests certain actions that are connected to our understanding of viruses: that crime is a sickness that we need to discern the root cause of, and that if we treat both the causes and symptoms of crime, we can eradicate it. The virus metaphor, then, can inspire real-world policies designed to address crime that would be quite different than if we employed a different metaphor. In *Metaphors We Live By*, Lakoff and Johnson (1980) argue that metaphors are not simply rhetorical flourish: they structure our thoughts and guide our decisions. We use metaphors to conceive matters in graspable terms, and then "we act according to the way we conceive them" (p. 5).

Hanne and Kaal (2019) describe metaphor as "a framing device, which both illuminates and conceals" (p. 6). The metaphors we use direct our attention toward certain aspects of whatever we are trying to describe. This understanding of metaphor is similar to Burke's (1966/2019) concept of terministic screens, which are essentially filters made of language (terms) through which we comprehend the world (p. 50). How we talk about things—and the language we use to describe the world—suggests some understandings and occludes others, and because we navigate the world through language, we cannot really access the world "outside" of it. Lakoff (2012) argues that as soon as we move from describing "concrete physical experience" (p. 205), we tend to rely on metaphor, and suggests that "the metaphor is not just a matter of language, but of thought and reason" (p. 208). We use metaphor to understand the world, but also to understand ourselves, how we learn, and how we participate in disciplinary communities (Goh, 2018; Ison et al., 2013; Montouri, 2011). Recall Freire's (2005) famous metaphor of banking as applied to education: instructors hold the knowledge and make deposits in students' brains, regularly checking to make sure the balance is increasing (p. 72). Understanding education through this metaphor has clear impacts on classroom practice, instructor and student behavior, course structure, and more.

Thibodeau et al. (2017) write that "metaphors have less of an impact when people lack relevant knowledge or interest in the source domain" (p. 856). This connects with our earlier suggestion that students are unfamiliar with the use of "threshold" as connected to a portal or doorway—if students have limited knowledge of the metaphor's source domain (the portal, doorway, or threshold), the metaphor will have less impact. However, it is not only students' unfamiliarity with the

doorway metaphor that prompts our re-examination of it. To move beyond their preconceptions, students must consciously let go of previous perspectives that frame their understanding of a topic (Land et al., 2014). To accomplish this, students need to become aware that they are grappling with new material, and they need to accept that they are letting go of these preconceptions and moving into the unknown. However, even in the most uncertain of situations, we can anticipate what may exist on the other side of a door. One thinks of what is on the other side of a door differently depending on the type of door: the front door of a house may make people think of an entrance or a living room, a revolving door at a hotel may conjure images of a fancy lobby with too many area rugs and outdated furniture, or an industrial freezer door may conjure images of piles of ice cream containers and frozen pizzas on the other side. When we move through a doorway, we are rarely proceeding into the unknown.

Additionally, the doorway metaphor is static—we move through doorways, but the doorways themselves are stuck in time and space. More dynamic metaphors may help students embrace the liminality, relate to the pedagogical situation, accept the epistemological and ontological uncertainty, and commit to shifting their preconceived ideas about a concept. Land et al. (2014) explain that a learner's willingness to use a new way of seeing and acting in a field depends "on their understanding of the signified and their feelings about the learning process" (p. 204). Using dynamic metaphors can bolster learners' understandings of the signified and prompt positive feelings about the learning process.

To create dynamic metaphors, it is important to account for the socially situated nature of students' learning. Their learning is underpinned by their experience in the world, and these experiences become relational tools from which they can make connections. The metaphors we use, therefore, must aim to activate these experiences. Something as simple as a doorway is rather static. Just as experiences in the world are dynamic, so too are the metaphors we should use to describe threshold moments for students.

Social literacy theorists offer insights that coincide with this logic. This branch of theory relies on the recognition that pedagogies are most effective when they account for what students bring into the classroom (see Lea, 2004; Pahl, 2014; Street et al., 2015). A student's wider social experiences inform how they learn and how they form new mindsets (Street, 1998), and it is important to recognize that students move through the social world, acquiring various experiences, with increasing fluidity in the digital age (Hamilton, 2015). How a metaphor may resonate with a given student, then, depends on the institutional contexts, power relations, and social identities that shape their worldview (Street, 2009). Effective pedagogies, therefore, are relational, where what is learned involves negotiating student experience with new concepts, contexts, and epistemologies. A single metaphor—a doorway—may not work for all students in all situations.

To be fair, TC literature has accounted for this to a certain degree. Cousin (2008) proposed that teaching with threshold concepts should be about creating a relational and transactional space that will prompt the best outcomes from students. This means teachers create space for dialogue with students that can provide insight into "the nature of their understanding of particular phenomena in specific contexts" (Land et al., 2014, p. 215). Developing metaphors that mesh with student experiences leads to deeper, more meaningful teaching and learning. This takes time and negotiation because metaphors must be practical and plausible if they are to promote transformative learning. All of this means being in tune with students' wider social experiences and disciplinary interests.

Threshold Concepts in University Pedagogy: An Interdisciplinary Working Group Approach

Our interdisciplinary working group came together to formalize the informal campus discussions we had regarding pedagogical practices in our courses that transform student learning. Because all of us teach courses or hold workshops for first- and second-year university students in which we present material and methods of inquiry that we hope students will carry with them to other courses, our discussions started by exploring the ways in which high-road transfer can bridge academic contexts and foster long-standing mental habits that

enable students to apply knowledge in new situations (see Blaauw-Hara, 2014). Our lead author, Blaauw-Hara, suggested that threshold concepts might be a productive avenue to explore and proposed a formal working group. This included regular group meetings (in-person and synchronous virtual), literature readings with facilitated discussion, asynchronous writing about our use of metaphor to introduce TCs which we reviewed collectively, independent presentations at faculty Pedagogy Series or Teaching & Learning fora that we all attended (when applicable) to add to our meeting discussions, and an analysis of the intersections between our ongoing pedagogical practices and TCs (through the investigation of our written pieces on TCs).

Currently, our interdisciplinary working group consists of five members with unique researcher positionalities. Blaauw-Hara's background is in first-year writing and writing program administration, two areas of study that place a high premium on understanding how students learn and supporting knowledge transfer across disciplines. Ibrahim is a mathematics and science education researcher exploring critical place-based pedagogy as a framing for learners to metacognitively connect learning to self, as an experience within community, grounded in culture and diversity, and situated in context/environments. Gerstle is a librarian whose interests as a researcher and educator lie in the rhetoric and communication of scientific information to multiple publics. Eaton is a writing teacher and scholar with an education background. He is interested in how student metacognition can facilitate knowledge transfer. Seeley has a background in linguistic anthropology, which, in its focus on language ideologies and diversities, overlaps with her current work teaching and researching academic writing. Our researcher positionalities, coupled with our research on threshold concepts in university pedagogy, served as an organic methodological approach to juxtapose literature and practice, leading to future research on more culturally responsive uses of TC and metaphor in higher education that link the diversity of our student body to our teaching.

In the section that follows, we suggest ways in which metaphor can be used to teach threshold concepts. We explore metaphor in two ways:

1. The ways in which metaphor can be used to foster transparency of metacognitive growth with respect to how learning happens, i.e., knowing/reflecting on liminal space of TC affordances and building capacity for self-awareness, self-regulation and self-directed learning. We present three metaphors—a video-game tutorial, a lakeside, and a conversation—that could be used to teach the concept of threshold concepts. These are meant to span disciplines and help students across the curriculum understand what threshold concepts are, with increased emphasis on liminality and metacognition.
2. The ways in which metaphors, when applied to discipline-specific concepts (e.g., number sense in mathematics), embody pivotal thresholds and transform learners' thinking/understanding of those disciplinary concepts. We present two examples of how metaphor can be used to help students learn specific disciplinary threshold concepts. We hope these examples will inspire readers to consider how they might use metaphor in their own disciplines.

New Metaphors for Threshold Concepts

Metacognitive Growth and Liminality

In these first three examples, we suggest how metaphors can help students understand what threshold concepts are on a macro level—in other words, not specific threshold concepts, but rather what threshold concepts are and, by extension, how they help us to understand what happens when people learn. All three examples emphasize liminality, agency, and individuality, acknowledging that learners learn in their own messy, unique patterns.

Your Quest Begins with the Tutorial (Eaton)

It is impossible to predict what will "click" for students—Adler-Kassner and Wardle (2015) discuss this—so selecting metaphors that offer the best opportunities to resonate with students' shared experiences is imperative. I often turn to common pop-culture examples to introduce the idea of a threshold moment. If students can grasp this, then they seem able to formulate their own metaphors that resonate with their lived experience and this can help them learn specific threshold concepts.

Thinking Past the Portal *continued*

Given the prevalence of video game play among university students, I have long drawn on video games to teach threshold concepts. The metaphors I pull from video game concepts seem to resonate with this crowd's interests and can often still be general enough for people who do not share an affinity for digital games. (They can often relate to learning board games or card games, especially the "practice round").

Video games often begin with a tutorial. The tutorial is designed much like a classroom and teaches crucial moves, concepts, and ways of interacting with the game world. The tutorial often creates a space where players are in the portal itself; it is a liminal space through which they must pass to perform in another game world. In role-playing games (RPGs) that occur in open worlds (where the player can select from a variety of different paths and sequences), these tutorials are separate from normal gameplay. Players come to the game with some background knowledge, they choose a character class, and they are inserted into a tutorial space that is separate from the game world itself. *The Elder Scrolls* (*Skyrim* and *Oblivion*) games fit this description. They are designed to expose players to a series of skills that will be useful in the game, they get players immersed in some small battles, and they introduce some lore that underpins gameplay.

However, the tutorials cannot predict the paths the player will take (neither can the player), so they are designed broadly to expose players to recurring situations they will encounter in the game and the skill sets they will require in those situations. Players are often uncertain about why they are learning a skill, and they often struggle to recognize how they will put a skill into action in the game. At the end of the tutorial, they face the end of the portal. Sometimes, this is literally a portal or passageway to the game world. The players must face the portal and pass through, not quite knowing how everything they learned clicks together until they've applied a concept in the game world itself. In a non-video-game context, this is like saying "so do you want to play for real this time?" and all the excitement, anxiety, and uncertainty that arises from that clause.

The specifics will change, but the tutorial is designed to help players learn the theory behind the game. They can then make connections as they encounter specific contexts within gameplay and combine skill sets to solve problems. In essence, the tutorials establish a foundation for threshold moments that will occur in the game as players make connections and gain more facility in navigating the world. Eventually, players pass from neophytes trying to grasp theory and apply it within the world to experts who have experienced enough to easily adjust to whatever situation they encounter.

I often use this metaphor to situate students in the journey they will encounter as they learn threshold concepts. They will learn many abstract and theoretical concepts to begin, but they will have opportunities to practice once they have passed through their learning portal. They will struggle at first, but the more they practice, the more they will make connections.

Eventually, they will connect their skill sets automatically to new scenarios. Making this explicit with the right metaphor can often help students embrace the challenge that begins a course and helps them adjust to the demands of thinking differently about a subject about which they already have deeply ingrained notions.

Once More (in)to the Lake (Blaauw-Hara)

If we all gathered on a lakeshore on a sunny, windy summer day, we could agree that if we were fifty meters farther inland, we would be on dry land. We could likewise agree that if we were fifty meters into the water, we would be in the lake. However, there would be robust debate about where the lake *actually* begins. Remember, it's a windy day, so small waves lap against the shore, sometimes covering the sand, and sometimes receding. Does that mean that the boundary between water and land is continually changing? If we stand where the waves lap over our feet, are we constantly shifting between being wet and dry, in the water and on land? Possibly. We could probably reach some sort of consensus through discussion, but we would not be able to share consensus of where the lake begins without talking about it.

Similarly, if we decided to walk into the lake, we could have a robust debate about when we were actually "in the lake." Some of us would likely take our time, maybe only wading up to our calves or knees. Others of us would surely take off pell-mell, throwing up great splashes as

we ran as fast as we could into the water, finally diving under. Is the latter person more "in the lake" than the person who is wading? If the wader eventually goes for a swim, but it takes them a half hour to warm up to it, does the delay make them less "in the lake," or is all that matters that they eventually get there?

The most intriguing part of this metaphor is that it highlights the liminality of threshold concepts. We do not know exactly when we have "mastered" TCs, but it is likely that it does not happen all at once. The traditional doorway metaphor does not represent the liminal nature of how we learn TCs very well because it is very infrequent that we would pause in a doorway, or even take our time walking through. Once we decide to walk through, we do it.

However, there are many ways to enter a lake, and as demonstrated above, it can even be difficult to determine exactly where a lake begins. Threshold concepts are similar. Many of them are clear at first glance, but the closer we examine them, the fuzzier they become.

I think that many threshold concepts are like this: not clear doorways, where we can easily agree which side we are all on, but messy (and beautiful) lakeshores that have a vague boundary between water and land. The lake metaphor works for students because most have visited lakes at least some time, and most have also had the experience of being in a group where people entered the lake in different ways—slowly, pell-mell, or some way in between. Yet this difference does not mean that we never enter the lake, and the differences with which we all perceive and progress within TCs does not mean that TCs are not transformative. Whether we run into a lake or wade to our knees, we can all agree that we did not stay on dry land. The lakeshore metaphor represents the likelihood that our students will engage with TCs in a variety of ways, and that is OK, just like there is not only one right way to enter a lake.

The Threshold as Conversation (Gerstle)

In Library Science and Information Literacy Instruction (ILI), our interests do not especially lie in students' introduction to (and socialization into) a particular discipline. Rather, we are trying to provide TCs that may transfer across disciplinary boundaries to empower student learning in general. Our goal is to offer TCs that may be applied (ideally) everywhere, because they speak broadly about the nature of research, scholarship, and the evaluation of information. To this end, coming from Information and Library Science, the TC metaphor that I suggest as an alternative or supplement to Meyer and Land's (2006) portal is influenced by the fifth frame of the American Library Association's Framework for Information Literacy for Higher Education: Scholarship as Conversation. To quote the framework: "Communities of scholars, researchers, or professionals engage in sustained discourse with new insights and discoveries occurring over time as a result of varied perspectives and interpretations" (American Library Association, 2015, p. 20).

Unlike the portal metaphor, a learner's invitation to a conversation does not oblige them to reach an endpoint, fully grasping the idea at the journey's conclusion. Instead, the learner enters an ongoing communal event, which will add to—and transform—their present knowledge. Learners joining the conversation come to understand that knowledge is spoken and shared by individuals at various stages of contribution. They also understand that their own entry into the conversation will be gradual: they can listen to the ongoing interactions that reveal interactions of the past, witness the creation of new interactions, and practice the language of the conversation in preparation to contribute themselves.

Addressing the characteristics that Meyer and Land (2006) propose for threshold concepts, this metaphor prepares learners for the kinds of experiences they can expect to have as they enter their disciplines. Conversations are transformative: the individual is changed by the invitation to become a member, shifting from an isolated self to a participant in a community. The conversation transforms the learner, and it is also transformed by their joining. A conversation can also be viewed as irreversible: What is said in the conversation, whether accepted or challenged, remains in the realm of "what has been said." They are integrative in their capacity to immerse the learner in novel ideas, from across present contexts and over time. The conversation metaphor further attempts to equally address learners' introductions and socializations into all individual disciplines, and so works well as an easily understood metaphor of the threshold concept experience. Finally, a conversation may be troublesome: While a learner is

invited to join, and their participation welcomed, an ongoing conversation is inevitably going to introduce viewpoints and opinions that challenge the learner's presuppositions. A "conversation" with oneself is safe because contradictions never arise.

In all, the conversation metaphor works well for the principles outlined by Meyer and Land (2006), and additionally affords the learner what they refer to as "liminal space": a newcomer to a community is allowed to practice its language, values, and worldview (p. 375). This said, the conversation metaphor suggests something beyond Meyer and Land's principles: that TCs are often learned and applied within disciplinary communities and through the interactions and "conversations" of those communities (e.g., papers, conferences, emails, informal chats, etc.).

To that end, the conversation metaphor also helps us to foreground the disciplinary nature of knowledge construction and to account for the social and cultural epistemologies embedded in the knowledge we teach. This is particularly important given the epistemologies that have, historically, been silenced, negated, or intentionally erased. In questioning knowledge hierarchies—along with their attendant ideologies—educators can better reimagine the subject matter they teach in ways that speak to the rich diversity of perspectives reflected across their classrooms. In this way, the learner has agency not only to contribute meaningfully to the community, but also to critique it. That is, conversations are typically selective affairs, including some and excluding others. Some members are given the opportunity for loud and lasting voices, while others are discouraged from speaking or silenced entirely. In this sense, the learner joins the community and can further criticize knowledge production that is based on unequal power structures.

Discipline-Specific Concepts

The next two examples focus on how metaphor can be used to teach discipline-specific threshold concepts. While it is certainly possible that readers will be able to use these exact metaphors in their own courses, we mainly provide these examples to demonstrate how metaphor can be used to illuminate and explain difficult subject matter. In each example, the metaphor helps students not only understand the concept itself, but how learners possess agency and participate in their own learning. We encourage readers to develop additional metaphors of their own, and we provide suggestions for how to do so in the last section of this article.

The Joke that Falls Flat (Seeley)

In the same way that pop culture metaphors tend to resonate with students, extending comparisons to familiar social contexts can also be useful. In writing courses, I sometimes introduce a joke metaphor with the goal of making the idea of conversational inquiry more plausible for students writing arguments. To do this, I draw on foregrounding theory (Shklovsky, 1965). This is a set of ideas that, at its core, suggests that some social information is more visible and therefore more readily accessible than other kinds of social information. These degrees of visibility are, further, shaped by one's positionality.

To set up the joke metaphor, we must establish a distinction between automatized and foregrounded language. When language is automatized, its referential, semantic, and indexical functions are tightly bound together, and social meanings become habitual and unproblematic. A good example of automatized language is small talk and its unambiguous conversational coherence. People typically do not ask themselves "what did they mean by that?" when someone asks how they are doing during a casual social encounter. In contrast, when language is foregrounded, we see the opposite: a linguistic form is made to stand out against the perceived norms of "ordinary" social life, which calls perceived mutual agreement into question. In other words, one might become disoriented if, after asking about another person's well-being during a casual social encounter, that other person replied by asking, "What do you care?" This disruption would prompt the reevaluation of communicative expectations because otherwise unexamined ideologies surrounding politeness would have been thrust into the foreground of participants' attention.

With all this in mind, we can introduce the joke scenario in the classroom. We might start by asking students to imagine a group of friends standing around chatting. During this conversation, one person tells an ableist joke and laughs heartily.[1] Perhaps one of the listeners is caught off guard and laughs nervously or narrows their eyes in disbelief. Perhaps a second listener responds by

calling out the joke for what it is: ableist, toxic, hurtful, etc. Perhaps a third listener tries to read everyone's faces and finds the whole situation confusing because of the incongruent reactions. Here, the second listener's call-out foregrounds (and problematizes) the ableist ideology—one that we now know is not uniformly shared among all people participating in the conversation. Students typically have no trouble recalling—and sharing—their own prior experiences with this kind of incongruence. Once they have had an opportunity to reflect and share, I move on to draw parallels between the joke scenario, processes of learning, and those of writing.

Most students need time to fully conceptualize scholarly writing practices as a form of conversational inquiry. The joke metaphor is helpful here for several reasons. First, students can typically relate to scenarios where people are struggling to understand the wider social contours of a conversation and establish their place within it. They can often recall a time when they were, themselves, confronted by a public display of a distasteful ideology. They can often also recall how they needed time to process that social situation. As such, one value of this hypothetical joke scenario lies in its potential for introducing the notion of liminality—if not thrusting students into a liminal space. Life regularly requires us to process social information and craft our identities and values in relationship to that information. This shifting, life-long process of meaning-making is often characterized by periods of liminality. Learners already experience this back-and-forth in their personal lives, so invoking that fact can help to normalize the back-and-forth they may experience as learners.

Second, students readily understand joking as a social act. On the other hand, they do not so readily understand writing as a social act (e.g., Roozen, 2015; Bazerman, 2015). That is, the joke situation is familiar, and, with some unpacking, it becomes resonant as a metaphoric "source." In overtly examining oral communication—joking or otherwise—as a social, audience-oriented act, students are more readily able to conceptualize writing as a similarly social, audience-oriented act. That is, students learn to recognize that their readers may think differently from them and that they may need to orient their arguments in ways that account for or "get ahead of" instances where their ideologies and interpretations may be incongruent with those of their readers. For young people who struggle with writing, this parallel can be empowering.

Finally, the joke metaphor, along with its "circle of friends" imagery, can enliven a non-linear liminal space. As such, it can oblige some learners to recall and envision threshold moments from their own social past—and identify threshold moments in their own educational present. Just as social actors must "read" social contexts, writers must tailor their practice in a way that accounts for their audience—if they don't want the joke to fall flat.

Numbers are Connected to Bodies (Ibrahim)

Our math identity is often so ingrained that we never recognize it as evolving, changing, and as being constructed through learning experiences, social power, and cognitive shifts. It is commonplace to make statements like "I'm not a math person," or "I've always been good at math." When enrolling in a numeracy course or a mathematics education course, many learners enter with a series of anxieties and apprehensions towards mathematics, while other learners come to the course excited to continue learning a subject in which they have always excelled. In response, I try to share ways of thinking that provoke critical and deep reflection on the nature of mathematical concepts. The threshold concept that students need to understand is the complexity of mathematical ideas and the myriad features that cognitively and socially construct how one might approach mathematics as a subject and/or how they solve mathematical problems. A by-product of traversing that threshold concept is students' awareness of the potentiality of "doing math": one that negates a prescribed formulaic and singular solution but that instead spans across a diversity of thinking to solving math problems. Thus, stuck math identities move from their static position into a liminal space where students are transformed. They begin to realize that any math problem is approachable at any skill level and solving it simply requires grit, willingness, collaboration of thought, and flexibility.

To illustrate this, I use a lesson on number systems and their connection to human bodies to help students grasp the threshold concept that math epistemologies are socially constructed. In an effort to find ways to measure or count really large quantities of things, and communicate that in a more aesthetically pleasing

format, communities historically came up with number systems. For example, the Oksapmin people of New Guinea adopted a base 27 counting system, which seems unusual for students since our Western and Eurocentric training assumes a base 10 counting system is the only one that exists, one adapted from the easy way we can count from 1-10 using our fingers. In contrast, the New Guinean system starts with the thumb on one hand counting body parts towards the nose and then down the other side of the body ending with the pinky on the other hand (Figure 1).

In sharing this threshold concept, I aim to provoke thinking by asking how we might move beyond the logic of preserving, of keeping, of holding Western and Eurocentric mathematical concepts as the epitome of mathematical knowing. Instead, we expand our thinking to value mathematical epistemologies from other contributors to mathematical expression and thought, and the roles language and culture play in that. The colonial erasure of number systems that live beyond the Western or Eurocentric epistemologies becomes a turning point for learners and they realize that knowledge in mathematics is socially constructed. This includes the realization that their early learning taught them formulaic foundations, but now creativity in mathematics is almost imperative in solving some of the most complex and arduous math problems in our time and in the future.

The embodied learning of relating number sense to our bodies is an interesting one. The identity markers that guide the way that we inhabit our bodies influence learning. A metaphor that may be useful and resonant with this understanding is an actor learning a character. Bit by bit, as the actor dons new clothing, adopts a new accent, spends time in the hair and make-up chair, the actor finds a new identity to perform, experimenting with a worldview and way of being in the world that is very different from how they are off-camera or off-stage. Thinking of embodiment as it connects to threshold concepts might function similarly: Apprehending new threshold concepts in mathematics can involve thinking about what it might be like to inhabit a different body, or at least to think of their own bodies differently.

As learners, the knowledge we attain is embodied and accepted as inherently true because one lives it as part of the fabric of their being despite how arbitrary that knowing can be. The way we count shapes our reality, but things could be—and often are—different. A student learning about hegemony of body types may come to see that they have been living a way that obliges them to think about themselves in terms of this ideology (e.g., dress sizes). The TC is a means of transforming this embodiment, freeing the learner to think about and live reality in new ways and becoming cognizant of social constructions of mathematical knowledge.

Suggestions for Implementation

SoTL's emphasis on threshold concepts over the past decade and a half underscores the utility of the framework for both curriculum design and direct communication with students about their learning. It is rare that such a framework emerges that is truly cross-disciplinary and provides utility for faculty and students across the curriculum. As we have attempted to illustrate, the framework is generative for each of us, despite the diversity of our academic preparation and the ways we work with students. Certainly, the purpose of this article is not to challenge the idea of threshold concepts, but rather to suggest ways its portal metaphor may fall short in suggesting the full scope of student engagement with the ideas at the heart of a discipline, and to engage with how metaphor might help students understand not only disciplinary threshold concepts, but the very concept of threshold concepts itself. Moreover, we hope to underline the fact that the metaphors we use to teach TCs can open (or close) pathways to accounting for diversity within our classrooms. By way of conclusion, we will now offer some practical recommendations to consider when adapting and creating metaphors for learners across the disciplines. We also include a brief exercise that might help others create metaphors for threshold concepts in their disciplinary and institutional contexts.

Integrating the Metaphor and Accounting for Liminality

Threshold concepts are teaching tools, not simply core concepts that define core disciplinary knowledge. Strong metaphors should be embedded in the overarching fabric of a course. It is beneficial to ask how the metaphor connects to core learning objectives, make those objectives overt to students, and deliberately weave the metaphors you select into many elements of your course.

Thinking Past the Portal *continued*

Interleaving the metaphor through several course lessons and activities offers students multiple opportunities to grapple with the ideas and immerse themselves in the liminality. Similarly, we believe that acknowledging a learner's social background and positionality is relevant for understanding and/or supporting their individual processes of sense-making as they traverse liminal spaces. This, combined with sustained immersion, offers them several opportunities to encounter their own threshold moments and apply what they have learned. Thinking past the doorway entails more than a metaphoric shift. It obliges us to cultivate an expansive liminal space, which requires purposeful instructional realignments.

Preparing Students to Think Deeply in Their Disciplines

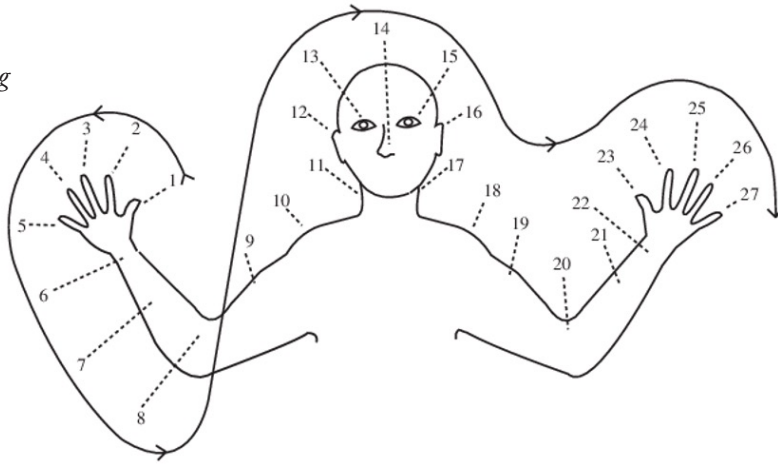
Ideally, the metaphor positions students to think about themselves as contributors to your discipline. The metaphor should get them thinking deeply about how the concept applies to the discipline and how they can apply the concept to their own contribution to the discipline. To set students up for this metacognitive thinking, it is often beneficial to get them to reflect on how the metaphor and its underlying threshold concept connect to how students contribute knowledge in the discipline. This reflective work could be implemented in several ways, including a short reflective assignment, a brief reflective activity/prompt at the end of the class, or even a concept quiz to begin a lesson that reflects on previous knowledge.

Determining the Need for New Metaphor(s)

Furthermore, how does an educator determine when the situation is appropriate to introduce a new metaphor? When students struggle with a threshold concept, a fresh metaphor might help them visualize the process they are experiencing in an engaging and perhaps even entertaining way. But how does one assess whether a new metaphor would benefit a student struggling to "get it"? As information scientist Meaghan Oakleaf (2014) comments, "While Meyer and Land's limited literature on the assessment of threshold concepts does not provide substantial, detailed guidance, it does demonstrate their belief that threshold concepts are assessable" (p. 511). Oakleaf argues that TC acquisition can be assessed as a learning outcome by (1) providing feedback to help students in "stuck places" and (2) making provisions for the different routes that students might use to "get it." In this sense, the need for a variety of metaphors is clear.

The space past the threshold is not only a place of knowledge acquisition or learning, but instead a place that opens the learner up to the complexity of knowing where deeper contemplation, research, study, questioning, and connecting can happen. Accordingly, threshold concepts—and their metaphors—must account for diverse generational, cultural, and linguistic resources if we want to mesh learners' lived experiences, social familiarities, and disciplinary pursuits. These pursuits are central to the purpose of university pedagogy, and our collective work will surely benefit from closer attention

Figure 1
New Guinean Counting



Note. Reproduced from Saxe (2015).

Constructing New Metaphor(s): A Brief Exercise

Creating new metaphors to teach threshold concepts requires thinking not just about the metaphor but also about how it will function in a course. We engaged in a faculty workshop—either as a leader or a participant—that focused on metaphor development and pedagogical application. This workshop used four steps—identify, conceptualize, consult, integrate—to develop metaphors and map how they could be implemented in the classroom. We outline these four steps since others might find them useful or adapt them for their own practice.

Step 1: *Identify* a core disciplinary concept that students must grasp to fully participate in the knowledge-building practices of that discipline. It could be instructive for faculty to reflect on a concept they teach frequently. The exercise can offer a new lens through which they can view their pedagogy.

Step 2: *Conceptualize* possible metaphors. Brainstorm at least two possible new metaphors and consider the following questions: how does the metaphor communicate the concept? How might learners relate to the metaphor, and how long might it take learners to make the connection between the metaphor and its underlying concept? The first question helps to link the metaphor's tenor to its vehicle. The second question places student learning at the center of the metaphor. It is natural for students to need time to make the connection between the metaphor and the concept. It should not, however, be overly complicated for them to begin making connections. The metaphor is supposed to facilitate learning, not obscure it.

Step 3: *Consult* with others. Testing a metaphor with colleagues who share pedagogical and research interests can be instructive. These conversations often reveal the finer details that refine the metaphor from its draft stage to its use in the classroom.

Step 4: *Integrate* the metaphor into the course plan. The metaphor is most effective when it weaves in and out of lessons, units, or assignments. At this stage, it is important to consider how the metaphor will be first introduced; the first impression matters. Then it is important to identify areas where the metaphor might be reinforced by connecting it to different moments where the concept might be useful to help students understand and apply course material.

In proposing the preceding ideas and activities, we hope to underline the value of inter-/cross-disciplinary conversations in determining what might be the best ways to create transformative learning experiences for our students. We believe these conversations will yield meaningful pedagogical reflection and assist educators in developing socioculturally responsive learning materials.

Thinking Past the Portal *continued*

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Footnotes

[1] I happen to use this discussion as an opportunity to problematize ableist discourse within my own classroom, but invoking the notion of any kind of offensive joke would serve the same purpose.

ESSAY

Kindness and Community in an Online Asynchronous Classroom

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Abstract

Online asynchronous courses have become increasingly popular since the COVID-19 pandemic. The nature of these courses, where there is no standard meeting time and the students get to decide when to work on the class, poses a particular challenge for professors seeking to form a kind classroom community. This article fills that void by providing ideas on how to implement the pedagogy of kindness into online asynchronous classrooms. The article explores examples of how faculty can create a kind and inclusive space with better syllabus creation, offering students more flexible due dates, and creating more meaningful communication between faculty and students. A kind academic classroom can support students and help them understand how professors are there to facilitate their success while giving students the confidence needed to learn and grow. Lastly, an uplifting environment can make universities more welcoming places for all students. This article offers a special focus on Bronx Community College, a two-year associate degree institution which is also a Hispanic-Serving Institution.

Keywords:

pedagogy of kindness, online learning, classroom community, asynchronous classes, college teaching

On March 11, 2020, I was walking into the classroom when my phone beeped with a breaking news alert: New York Governor Andrew Cuomo was closing all public universities in the state effective that day (Niedzwiadek & Touré, 2020).[1] The novel coronavirus was wreaking havoc on New York, and all university functions, including teaching and learning, were going online. This was only the beginning of a perilous journey for myself and my students.

That month New York City encountered the worst. Sirens raged throughout the night and day. In the middle of my academic semester, New York's EMTs responded to more than 5,000 emergency calls while more than 1,000 New Yorkers died from COVID-19 each day (Silva & Winter, 2020). The largest proportion of those deaths was concentrated in the city's Latino community. Teaching at Bronx Community College, which is a Hispanic-Serving Institution, and living in the Bronx, hearing the suddenly familiar sound of the sirens blaring, it was clear that my class was not going to be the most important thing to my students. But I still needed to teach (Gonen, Choi, & Velasquez, 2020).

The City University of New York remained an online institution for the next year—not returning to in-person teaching until fall 2021. To accommodate this new modality, I spent the summer of 2020 rethinking my teaching. This included how to deliver content online and how to change my goals for the newly online course. While reading Kevin M. Gannon's *Radical Hope: A Teaching Manifesto* (2020), I recognized that I needed to focus on the student as a person in a more comprehensive manner. I could no longer rely on the face-to-face connections which in-person teaching helped to create. Citing research by other scholars, Katie Burke and Stephen Larmar (2020) found that online classes often have lower engagement and sense of

identity, with students caring far less about their classes in online environments as compared to face-to-face classrooms (p. 2). Underscoring Burke and Larmar's research is a provocative article by Ellen Rose (2017), who argues that online asynchronous teaching has led to "faceless humans" in classrooms where students feel less connected with one another (p. 24). This, Rose argues, has negative ethical results for education and society. This has led to the concern that with the rise of online learning during the COVID-19 pandemic, academics were about to experience a digidemic: a digital pandemic (Alam & Hoon, 2021). How could I still create a community with my students whom I would never actually meet?

Prior to the COVID pandemic, I retained a lot of my received wisdom about teaching. This wisdom argued that professors should mirror the real world and be tough and clear with students. This meant that deadlines were serious (though excused extensions were common). While I worked to make a connection with my students and to know more about their lives, the classwork was always paramount. With COVID upending the normal way of life, I could not pretend that my work was paramount anymore. My pedagogy needed to be updated, and Gannon's work gave me a good direction to begin to take.

Helping to complete the journey of transforming my teaching was a talk which occurred during my third online COVID semester given by Catherine Denial at Queens College in March 2022. This talk was about her emerging scholarship: the pedagogy of kindness (Denial, 2022). Although Denial and Gannon did not originate the pedagogy of kindness (Burke & Larmar, 2020), their works resonated with me, helping me rethink how I view student interactions, classroom management, and academic assignments. They helped me recognize that faculty need to treat students using the Golden Rule: treat students as we wish to be treated. They are doing the hard work of learning; we need to be there by their side every step of the way. This work of supporting students is complicated in an online asynchronous environment, but it is not impossible.

This article will focus on applying the ideas and principles for building kindness and respect into an online asynchronous course. Working with students, learning about them as individuals, and helping guide their success is a tricky proposition during the best of times. This challenge is exacerbated by teaching classes where students choose the time and pace of their work. The principles and strategies employed were made possible because of my work at a Hispanic-Serving Institution and community college where teaching is prioritized by faculty and innovation is accepted by departmental chairs and colleagues. This article will focus on three specific areas where faculty can work to be kinder and more honest with students: syllabus creation, deadline setting, and communication styles. In all three areas, faculty should strive to help our students grow as learners and scholars.

Kindness in the Classroom

Catherine Denial (2019) has helped popularize the pedagogy of kindness. Her ideas revolve around one simple concept: Why not be kind? This is a simple but important question for all professors. Denial defines kindness by asking professors to believe our students, to believe in our students, and to communicate honestly in a way that makes them feel comfortable and respected. We should recognize them as collaborators in their educational journey and help guide them to achieve their goals (Denial, 2019).

Faculty should intuitively understand the importance of Denial's ideas. After all, faculty demand kindness and respect from those we work with. For example, respect is often viewed as a means of mitigating the problem of faculty burnout. Burnout has been a major problem in academia since prior to the pandemic. The sources of burnout are multi-faceted, but as Michelle Pautz, Jessica Dewey, and Martha Diede (2023) note in *Inside Higher Ed*, kindness can help alleviate some of the problems. To improve campus culture and reduce burnout, they recommend campus administrators work to improve communication with faculty, offer better recognition of faculty for their work, and create a "culture of civility." If those strategies are viable options to help faculty wellbeing and productivity, then the same strategies of communication, respect, and civility can help our students.

Similar to the pedagogy of kindness is the concept of creating a caring classroom. Brian Moorhouse and My Tiet (2021) argue that a caring classroom is one

where faculty and students work together to create an environment of mutual care. They note that this is particularly challenging in an online environment. They remind readers that "in the in-person classroom, we use multiple cues…to familiarize us with our learners and consider their needs during lessons. However, in the online classroom, these are harder to gauge and require explicit alternative actions" (p. 216). Figuring out how to apply the ideas of care and kindness to an online class, especially an asynchronous class where students can dictate when to engage the class material, poses numerous challenges.

It is important to make a classroom more welcoming, bring respect and civility to the class, and think about how our policies and ideas affect students and their drive to learn. Elizabeth Gorny-Wegrzyn and Beth Perry (2021) argue that an advantage of the pedagogy of kindness is that it can "empower learners, allow them to think independently, and engage them more fully thereby improving their academic achievements and increasing their social awareness" (p. 68). Being kind and compassionate encourages students to come to faculty with problems which can be solved together. As an added benefit, when faculty and students have a strong working relationship built upon respect and trust, Maha Bali and Yasser Tammer (2023) argue, it could reduce plagiarism, as students become more confident in their intellectual abilities. In short, caring and being kind can improve student learning outcomes, make the classroom and university a more welcoming place, and help the students be seen by representatives of the university. This is especially important at a Hispanic-Serving Institution like Bronx Community College where 46% of the student body is a first-generation student and is likely unfamiliar with many of the hurdles which college bureaucracy can create (Facts & Figures, 2023). Colleges can be cold and unwelcoming places; a friendly faculty member can change that reception among students.

But online asynchronous courses add an extra layer of complexity to this discussion. After all, it is harder to create an environment that empowers learners when there is no set time at which students must engage in their work. This is problematic at institutions like Bronx Community College where students like online asynchronous courses for the flexibility they offer. Online asynchronous courses give students maximum flexibility to both work and study. It allows students to take care of dependent family members, work a job, and go to school at the same time. At Bronx Community College, over a quarter of our students are supporting children (which does not count those supporting their parents) and more than half are working a job (Facts & Figures, 2023). Many of those, based on anecdotal conversations, are working more than 30 hours a week while at school full time. In short, online asynchronous classes enable the students to live their lives while also getting an education. Students like these asynchronous classes even though they pose a particular pedagogical challenge. They do not naturally foster a connection to the college and classmates nor do they offer students an escape from their home and lived lives. And these classes challenge faculty members who need to strategize to create a connection with someone they will only meet virtually.

In online asynchronous classes, students have less connection to the learning environment, the professor, and other students. This means they need to rely more heavily on intrinsic motivation than in traditional face-to-face classes (Lu et al. 2023). This problem of a self-paced learner who works independently of the class does not absolve the professor of creating a kind and welcoming environment; it only intensifies the efforts we must undertake. After all, online courses typically have "higher attrition rates" than face-to-face classes (Karim & Alam, 2021, p. 18). But, as Nur Syasya Karim and Meredian Alam (2021) argue, this can be countered by instructors who help students develop a sense of belonging. As Fiona Rawle (2021) argues, the pedagogy of kindness "can't be a checklist that is pasted over a syllabus that already exists – it needs to be foundational to course design and central to an instructor's teaching practice." This article will explore some ways to help instructors design a kind and caring online asynchronous course.

Syllabus Creation

Faculty should avoid turning our syllabi into modern terms of service agreements—the type which people agree to without reading. A syllabus should not be a mindless document to be ignored. Over the past decade, many scholars have written about ways to improve the syllabus. A syllabus serves as the first point of contact

between a professor and student. It can help the professor set the tone for the entire semester. If a professor wants to create a kind and caring environment, the professor must do so from the beginning. Richard J. Harnish and K. Robert Bridges (2011) have demonstrated that a friendly syllabus can improve student views of the professor and course. Additionally, Sherria D. Taylor et al. (2019) created the Social Justice Syllabus Design Tool. This tool helps professors write a syllabus "that signals belongingness, growth mindset, communal goals, clear and positive expectations, and success-orientation [which] assists in setting a welcoming tone that leads to greater student achievement and engagement" (p. 133). When faculty employ the Social Justice Syllabus Design Tool, we help our students counter unhelpful stereotypes while demonstrating inclusiveness in the classroom. This is especially important at Hispanic-Serving Institutions where the majority of students are people of color who often enter the classroom from a place of vulnerability to negative stereotypes (Taylor et al., 2019). Another method of improving the syllabus is recommended by An Equity Syllabus (n.d.), which offers professors practical advice for showing an engaging personality through their syllabus. Michelle Pacansky-Brock (n.d.) also highlights the importance of creating an accessible, welcoming, mobile-friendly syllabus which she shares with students *before* the semester begins. She does this to help "mitigate belonging uncertainty," which is especially common among students from marginalized groups. Pacansky-Brock uses a process that she calls the Liquid Syllabus to tell the student "I will be a partner in your learning."

By sending a welcome message to students, the faculty member can clearly signal the values we want to share. The best and earliest way for a student to know that you care about them is through a well-designed syllabus. Thus, my syllabus includes a simple preamble which welcomes them to the semester and states: "Your success is important to me and if you need help, have any questions, or just want to chat, please see me throughout the semester!" This helps convey how I see myself: as someone who is there to guide them as they do the hard work of learning.

An important theme running throughout the first two pages of my syllabus is the idea that life and studying are hard, but that I am here to help. Although I will be challenging them intellectually throughout the semester, my job is to educate them, not to make things more stressful for them. I am happy to try to mitigate some of the course's added stress. This includes a specific note that identifies outside issues which students should tell me about, including illnesses, deaths in the family, losing or gaining a job, and moving or getting evicted. These outside factors are important to acknowledge: they can help a professor teach the whole student rather than the fictional student whose life is perfect and whose thoughts are devoted exclusively to the class. After all, a student facing eviction (which happens annually at my institution) is going to be distracted. This student can still learn, but they will likely need more personalized care than others. Professors and students have a shared goal; it is important to acknowledge that and let the students know we are there to help them achieve this goal. I want students to know that they can tell me if their lives outside of the classroom are interfering with their classwork.

These efforts are part of a larger aim to help students recognize that my role in the class goes beyond taskmaster and assignment creator; I take responsibility for helping students learn and grow. My work will challenge them, but I will also help them. I am there to answer questions and offer support. I am trying to create the same type of environment I would want: one where the person with power has an open door and promises to work with me.

Due Dates

Scholars are beginning to question the adage that deadlines for projects are important real-world training for students (Thierauf, 2021; Patton, 2000). As Ashley Whillans (2021) notes, the idea that workers have important and immovable deadlines in the corporate world is not true. Instead, she points out, nearly half of all deadlines that workers encounter are flexible. In the professional world, many important deadlines are created as commitment devices and altering the deadlines is often not a problem. Extensions on work in the corporate world are often granted and result in higher quality work produced.

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Deadlines for non-academic work are often flexible. If a professor's goal is to improve student learning while helping students excel, then being inflexible can be self-defeating. Melissa Hills and Kim Peacock (2022) identify nearly a dozen studies which show that deadlines increase stress while resulting in lower-quality work and reduced learning. When faculty turn to flexible deadlines, Hills and Peacock argue, the quality of the work improves while student stress levels decline. Importantly, flexible deadlines also equalize the playing field when dealing with students who are often focused on real-world problems outside of the classroom, as is common at community colleges. Students who are caring for family members or who must complete their studies while grappling with various disabilities might struggle to meet deadlines in a timely manner. But this does not make them incapable of completing quality work and learning. Hills and Peacock note most instructors have an unofficial policy of granting extensions upon request; if that is the case, it is more equitable to bake the extensions into the course (Hills & Peacock, 2022).

This research supports the pedagogy of kindness and the principle that students should be treated as faculty want to be treated—and faculty do not like deadlines in their own work. In addition to my teaching and scholarship, I serve as Book Review Editor for the H-Diplo network where I have commissioned over 800 book reviews over the past decade. Over that time, nearly a third of those individuals who have completed a review turned them in late, and that percentage has increased significantly since 2020. Academics miss deadlines regularly and usually their tardiness is accommodated. Why not with students? While there are final deadlines because we must turn in class grades, this does not preclude flexibility during the academic semester. It is better to be honest and open about that flexibility at the beginning of the semester to help reduce stress and be more equitable.

I include in my syllabus a note that any student can get a "poop happens" extension. Students do not need to offer an explanation, nor do they need to prove that they need the extension; after all, "poop happens" to everyone. My only rule is that students need to request an extension in advance; they can't just ignore the assignment without comment. If they make the request, it will be approved: no explanation or excuses required. When extensions are requested, I ask the students how much additional time they need, and I give it to them. Sometimes they do not ask for enough time, and I grant them more than they initially requested. For instance, I have seen students who believe they can write an entire paper in one or two days. That is wrong. I recognize this overly ambitious (and late) deadline and give them more time than they initially requested. In those circumstances, I remind them that I want them to produce high-quality work. It is better that they take a week to complete a high-quality paper than two days to produce a poor-quality paper. In short, I am treating students like professional learners who need time to be able to think, write, and produce.

As this "poop happens" extension implies, my assignments always come with due dates. After all, I cannot grade every assignment by every student on the last day of the semester. In addition, turning in everything at once does not allow the students to reflect, edit, or improve their work. Due dates serve a purpose. They motivate people to sit and complete the work, which can be especially difficult if it is intellectually challenging. Additionally, when faculty create the syllabus for all our courses, we often try to spread out when big assignments are due to give us time to grade. This prevents us from getting too many papers on the same day. Thus, due dates are important—but flexibility is, too. Of course, some universities do not allow their faculty this privilege. In those circumstances, I would advise faculty to implement as flexible a policy as their employer permits.

In spring 2023, even with the generous extension policy, most students turned their work in on time. Only 15 out of 170 assignments submitted requested an extension in advance. In addition, another 37 assignments were turned in late without an extension. In short, about 70% of my students' work was turned in on time. The students listened when I warned them that due dates help them stay on top of their work and that extensions and late work can pile up and lead to bad outcomes.

For students who missed the due date without requesting the extension, they were met with warmth and kindness, not punitive measures. I discussed with them why they were late and how much time they

needed to complete the work. The goal is to come up with a realistic schedule that avoids them falling farther behind in their work. When setting new due dates, we discussed what other work they needed to complete in all of their classes and what the state of their non-academic lives looked like. While I did penalize those students for failing to communicate with me in an appropriate timeframe, the penalties were small. Students could turn in any assignment throughout the semester up until the day after the final exam. Though they were penalized for this late work, and they were not given much feedback on the material turned in at the very end of the semester, their work was still accepted.

All students are given two sets of due dates: flexible and hard dates. The flexible due date is the date the assignment is due. If a student tells me they will be missing this before the due date, then the students get a mutually agreed upon extension. If a student does not give me a warning, then they get a small penalty which maxes out at one letter grade deduction and a new, mutually agreed upon due date. The hard due date is the day after the final exam is administered. After that, grades must be submitted to the Registrar's Office and it is not right to hold up the entire class's grades for tardy students. The goal is to treat the students with the necessary kindness and respect that enables them to turn in their best quality work and demonstrate their learning. It also teaches them the lessons of both flexible and inflexible due dates which more honestly mirror the corporate world they will likely enter.

Communication

The bedrock upon which the pedagogy of kindness is set is respect. Our students greatly value respect, and disrespect can derail an entire class. To demonstrate respect, faculty and students need to engage in an open and honest dialogue. Communication is key to making the system work. It is especially important in an online asynchronous course where students learn on their own in isolation. To help them succeed, professors must work to break down communication barriers between students and teachers. If professors want to become intellectual mentors to their students, then we must also create safe spaces where we can listen to our students about what is going on in their lives.

Azad Ali and David Smith (2015) succinctly describe the problem of social isolation in an online class as such: "Students can complete courses and programs without the need to see any of their professor [sic] or their colleagues" (p. 14). Kristopher M. Joyce and Abbie Brown (2009) demonstrate that this sense of isolation harms student learning. Humans are social creatures who need to be in contact with their fellow learners. A real connection can boost student success (Joyce & Brown, 2009). Ali and Smith (2015) argue that a lack of connection can help explain why online classes have higher rates of withdrawals than face-to-face courses. The in-person environment can keep a student engaged in a way that is difficult to replicate in one's house, by oneself, on one's computer.

Despite the loneliness of it, online asynchronous courses are still appealing to many students who need flexibility. After all, those classes enable students to engage with their classwork on their own schedule. But as the semester wears on, that flexibility can lead to isolation. Katie Burke and Stephen Larmar (2020) note that to counter this loneliness, faculty should engage "the students in open-ended and genuine dialogue centred in caring" (p. 6). Faculty members can limit the isolation through group work activities, discussion boards, or online discussion sessions, but those are often poor substitutes for real-world connections. Faculty need to do more. One thing we can do is offer a safe space to listen to students. In this learning environment, the faculty member must do more than set up the learning management system, assign the work, and grade the assignments. The professor must meaningfully engage the student.

As part of my pedagogical strategy, I grade student-professor interactions while letting students guide such interactions. Thus, each student is graded on their ability to reach out to me each week. However, students get to choose what "reaching out" means for them. Students get the option to choose to send me an email, call me, text me, schedule a meeting with me, or join my online office hours. I will meet them at whatever method of communication they want as long as they communicate.

This communication serves as a powerful way for me to interact with my students. For most students, on most weeks, there is little for them to report. In those instances, students can choose to tell me what they learned, what

they loved, or just tell me that they did the work! But those low-stakes communications help pave the way for the harder stuff: when students miss work, fall behind, or do not understand the work. It also opens a pathway for me to ask students if they are happy with their grades. Often, in the case of students who are earning low grades, they are unhappy but never thought to ask the professor how to improve. By setting a foundation of having regular, low-stakes communication, I open the door to having important conversations with students about their work. It also gives me a chance to ask students how they are doing in other parts of their lives, from the academic to the professional. Sometimes, through these conversations, situations emerge where I can help. This regular communication allows me to serve as a friendly, helpful face for the college.

Logistically, this communication means that I spend my workdays with my gradebook open. Whenever I get a call, text, or email from a student, I log that it happened. I keep pertinent notes to help me guide our future conversations and close the loop with any issues arising. Each week on Mondays I update students' grades in the learning management system and send an email telling them whether they earned a point for communication. Updating the weekly grades takes at least an hour a week, often more at the start of the semester. But this investment in time goes a long way toward building our relationship.

Caring about students requires much self-care. As Moorhouse and Tiet (2021) note, it is important that instructors do not link their quick and constant communication with the students' perception that faculty care. After all, this will overburden any faculty member, and "a healthy and sustainable pedagogy of care must include deliberate care for ourselves" (p. 222). Because self-care is important, I do not respond after regular business hours—and my students know that. A student who sends me a text message at 2 am will not receive a response until the next day at 9 am. An email that comes on a Saturday will not get a response until Monday. A phone call that is made at 7 pm will get my voicemail. I care about my students and treat them professionally and with respect, but I put on my own oxygen mask first. This rule of responding during business hours is explained on the syllabus and students learn to accept it quickly. I promise students to respond within 24 hours of their outreach (except on weekends), but I make it clear that they will not get a response outside of business hours.

Enforcement of normal working hours is important for instructor mental health. It also means that the first thing I must do every workday morning is look for student emails and text messages. Communication with my online asynchronous students takes priority throughout my workday. Student communication, through phone calls, text messages, and emails, is the focus of my day. In online asynchronous courses, where readings can be planned out and videos recorded at the start of the semester, this can free up instructor time to devote to those individual connections.

Finding individual connections is especially important for online instructors in community colleges. At schools with a similar demographic to Bronx Community College, where most students have jobs and other real-world responsibilities, getting to know the student is key to helping them succeed. My students are usually juggling numerous activities at the same time and having a supporter there to guide them is important for making them feel like they belong. Simple messages of encouragement to students can often work to reduce tension and bring them back to the classroom. Each semester I have been able to bring a student back who quit for a few weeks because of an overwhelming life event. If I had not reached out and encouraged them, they would likely have not returned.

Fostering a good relationship with a student early can help resolve problems that arise later. Almost all students experience a problem in the middle or end of the semester. Workloads increase during midterm and final exam periods. Stress rises. Setting a foundation of respectful and open communication can help improve the instructor-student relationship which can allow the instructor to genuinely support the student. Teaching requires students to buy into their own learning and education and a good first step to improve student buy-in is for the professor to truly believe in the student.

Conclusion

Creating a kind and caring working environment should not be the exclusive benefit of faculty members from administrators. It should be available to students

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from their professors as well. Catherine Denial's pedagogy of kindness is a useful framework for thinking about how to improve college-level teaching and make a better working environment (2019). It can create a space where students feel seen and respected, which can encourage them to work harder and believe in their own education. It can also work to mitigate some of the stresses engrained in the collegiate experience. Faculty members can serve as cheerleaders, supporters, and educators.

This pedagogy is especially helpful for online asynchronous teaching, where students are more likely to be isolated and withdrawn from the classroom experience. Thus, professors should work at applying a welcoming environment that meets students where they are and helps them succeed. Creating a welcoming syllabus, flexible and realistic deadlines, and a system of open communication helps students' mental health while also ensuring that they complete the work. As Denial (2019) states: "It costs me nothing to be kind." This is a valuable lesson which we should not forget.

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Footnotes

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ESSAY

Engaging Students in Critical Thinking During Online Learning

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Abstract

Employability factors are essential skills learned in any course, regardless of the modality. Planning an online course is multifaceted and requires intentional use of instructional time. The purpose of this commentary is to explain how one professor used technology tools while teaching online courses to bring the multi-layers of planning into a comprehensive document that encouraged student engagement, critical thinking, problem-solving, and collaboration. I discuss this teaching method in a university setting as well as future implications.

Keywords:

student engagement, online, collaboration, critical thinking

Academic success and retention of content are key employability factors of postgraduates; but in today's workforce, employers are also looking for graduates who are collaborators, problem-solvers, and critical thinkers (Wilkie, 2019). The pandemic shifted the workforce as well as the landscape of education to include an increase in students choosing online modalities over face-to-face (F2F) (National Center for Education Statistics, 2023). Although more students are choosing online modalities, the key employability factors of content knowledge (acquired through student engagement), collaboration, problem-solving, and critical thinking are still necessary for the success of students postgraduation. Creating an interactive resource embedded in an online course allows students an opportunity to demonstrate and refine the key factors of employability with the guidance of the professor.

The National Association of Colleges and Employers (NACE) (2021) Career Readiness Standards are designed to prepare students to enter the workforce with career currency ready for success in lifelong career management. The eight core competencies aid students in the skills needed to enter the workforce, provide higher education instructors with a framework for addressing career-related goals, and a framework for employers through internships (NACE, 2024b). The core competencies include career and self-development, communication, critical thinking, equity and inclusion, leadership, professionalism, teamwork, and technology (NACE, 2024a). These core competencies evolved through interviews with 606 employers from organizations who identified the absolute Career Readiness competencies that are essential for hiring (NACE, 2024b). Critical thinking and problem solving was one of the top responses as 96.3% of employers indicated this absolute competency. Additionally, 90% of respondents indicated that teamwork and collaboration were absolute Career Readiness competencies.

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Another employability factor included academic content knowledge, or the knowledge necessary to complete the job. Academic content knowledge is acquired through classes and assessed as course work, leading to academic success. Student engagement is essential for academic success, motivation, and persistence in the college setting (Fredin et al., 2015; Slanger et al., 2015). Although the learning modality may have changed, either due to an emergency response to teaching or intentionally moving to an online course, student engagement is necessary to help students gain the knowledge needed postgraduation. Knowledge obtained through college is not only necessary to be successful in the workplace, but also to be productive citizens of the community. This level of content knowledge also requires students to be effective collaborators.

Collaborative learning is an educational approach to learning that requires groups of students to work together to complete a task, solve a problem, or create a product. Collaborative learning requires students to take responsibility for their own actions as well as respect the contributions and abilities of their peers (Laal & Ghodsi, 2012). Encouraging students to strengthen social interaction skills required for collaboration is essential to a prosperous personal and professional life. In online learning, collaboration can sometimes take a backseat to lectures, which often rely on the teacher sharing the knowledge with the students or what is termed "teacher explaining." Hull (2004) noted that explaining often relies on the teacher's network of neurons and leaves students trying to make sense of the teacher's explanation of content, even though the teacher and student do not share the same knowledge or experiences. In addition to the transfer of knowledge, the emotional response associated with learning is associated with motivation. When a teacher explains information to students, students do not have the same positive emotional response to learning as when students generate their own ideas (Hull, 2004). This positive emotional response is essential in an online setting.

In addition to the need to have positive emotional responses to learning experiences, as humans, we crave human interaction (Gopnik et al., 2000; Hanson, 2013). Human interaction provides the opportunity for our minds to take a break to process cognitively demanding concepts by processing information through productive language before engaging in another cognitively demanding task. The human brain can only pay attention for about 15 minutes before moving to autopilot where information is not received (Bradbury, 2016; Jensen, 2000). Willis (2007) also noted that when students have minimal stress and are engaged, the affective filter is lowered, allowing students to engage in connections to new learning as well as critical thinking.

Students not only need to be able to think critically in the workforce, but also in social settings where decisions must be made quickly (Dwyer & Walsh, 2020). Within institutes of higher education, it is critical that we are engaging students in tasks and metacognition related to critical thinking. While the modality of the course may change, students should still be engaged in rigorous problems that are connected back to their future goals, regardless of their learning environment. Interaction, collaboration, and critical thinking can be obtained in the online environment as long as the tasks are clear to students.

Clear learning tasks are essential regardless of modality. During the pandemic, one study found that students reported a need for more interactions with less lectures to prevent Zoom fatigue (Chen et al., 2021). Likewise, students in another study reported that using Zoom did not increase their engagement in the classroom or help them to participate in class (Serhan, 2020). In these studies, students reported that unclear tasks contributed to Zoom fatigue. Yet, in a different study, students reported that using breakout rooms and clear explanations of course material were beneficial to learning (Rahayu, 2020). Online learning requires intentional preparation while weaving together the multi-layers of planning. While Emergency Remote Teaching (ERT) (Hodges et al., 2020) may have highlighted the use of learning online, the shift has an everlasting effect on education.

With a growing number of students juggling work, families, and school, the need for blended or online learning is essential throughout institutes of higher education (Lorenzetti, 2013). We must ask ourselves: How do we transform the online classroom to meet the academic and social interaction skills necessary to grow our students into life-long learners and productive citizens of our community? While this complex question will take many years to unpack, using breakout rooms

during online instruction can help foster critical thinking, provide opportunities for social interaction, and allow students the opportunity to develop the necessary skillsets to be able to collaborate with colleagues. Embedding instructional strategies often used in F2F instruction into a live document, such as a Google Doc, is one way to keep students engaged in the collaborative learning process.

In this paper, I present my journey to increase critical thinking, collaboration, and problem solving while teaching online. The underlying goals of this journey included fostering collaboration and student engagement so students felt a sense of belonging and were prepared for the future workforce.

Methodology

Teaching Content

This study began as I explored course amendments as a response to ERT (Hodges et al., 2020). As the world quickly moved courses online, I was eager to involve students in the same manner of engagement and critical thinking they were accustomed to during in-person learning and explored this goal through the scholarship of teaching and learning (SoTL). Before the pandemic, I taught the courses in this study in-person with no plan to change modalities. During the pandemic, I sought to strengthen the course to provide increased student engagement while online. The courses selected included two courses in my discipline, Education, with one course section taught at the undergraduate level (N=15) and one course section taught at the graduate level (N=10). In addition, I also taught two sections of First-Year Seminar (FYS) (N=40). FYS was identified by the American Association of Colleges and Universities (AAC&U) (2024) as a high-impact practice in higher education. To ensure students in this study received the educational benefits outlined by the AAC&U, FYS included critical inquiry, frequent writing, collaborative learning, and skills to develop students' intellectual and practical competence (AAC&U, 2024). FYS was taught by faculty from every college in my university and was a requirement of all incoming first-year students. I selected these courses to gain diverse perspectives from students representing multiple majors that included approximately 65 students each semester with none of the students in more than one course. As the world quickly moved online, I noticed a need for increased student engagement as well as a connection between course content and career readiness.

I opted for a self-study approach that is utilized in teacher preparation programs (Berry and Loughran, 2002) to gain a better understanding of my process throughout the course amendments due to the shift in modality. The narrative was collected by engaging in reflection of my pedagogy by identifying "telling moments" (Schnellert et al., 2014) from courses where author narratives were collected and reviewed at a later time to clarify experiences, ask questions, and allow interpretations that are not influenced by in-the-moment experiences, such as a shift to ERT.

The author narrative analyzed included courses taught during three semesters over the course of three years. I selected courses that were taught during one semester of in-person (3 courses), a semester of ERT (3 courses), and again in-person and online (3 courses), but the final semester included student choice of modality. For example, courses taught online during ERT required all students to attend courses online due to COVID-19. Courses taught in the last semester included two groups of students. The first group of students had returned to in-person learning. The second group of students requested to remain online in a synchronous modality. This led to one course in my discipline in-person (undergraduate) and the same course online (graduate). Due to the multiple variables associated with ERT and student modality choices, the findings are meant to be transferrable, not generalizable.

Participant and Data Collection

Data collection included the use of my narrative throughout teaching the courses, my observations of in-class assignments, and my analysis perspective of student evaluations. During the pandemic, the entire world, including university instructors, moved online quickly, which created a challenge for more experienced digitally literate instructors and a nightmare for instructors who were not as experienced engaging in such a shift in modality (De Vincenzi, 2020). Due to these outside variables that had the potential to impact all findings, I took detailed notes of instructional strategies

implemented during the onset of the crisis as well as once students were given the option to attend in-person.

Due to multiple variables associated with mental health when students moved online quickly, as well as to respect student voice during this difficult time, my lived experiences (analyzed through my narrative while teaching all three courses, my reflection of student assignments, and my perception of interpersonal relationships embedded in teaching) were the sole participant of this study. This approach was grounded in Berry and Loughran's (2002) framework related to self-study within teacher preparation which includes "accepting responsibility for, and genuinely caring about, the interpersonal relationships embedded in teaching [as] important in a pedagogy of teacher education" (p. 27).

Intervention

Google Docs and breakout rooms were utilized as a vehicle to engage students in critical thinking, collaboration, and problem-solving. These technological tools have become widely adopted in many online settings. These tools were selected because most students have exposure to them, allowing the cognitive lift of critical thinking, collaboration, and problem-solving to be the focus of the student and to prevent students' affective filter being raised (Willis, 2007).

Findings

Throughout the process of self-study to inform course amendments, I found that many of the instructional practices that were utilized during in-person learning were essential to online learning but with a greater emphasis on allocation of time and intentional focus on instructional practices.

Allocation of Time

One finding present in my narrative was intentionally planning each class session to ensure students were discussing about every 15 minutes or less. This finding aligns with Hull's (2004) assertion that individuals can only focus for around 15 minutes before cognitive processing was required. Through my narrative, I noticed that in-person I could expand this time through storytelling; however, when online, I noticed that the 15-minute mark was a significant stopping point for students to begin discourse. The allocation of time took precise planning. I noticed that when instructional practices were planned before this lesson, students were more likely to engage in critical thinking, problem solving, and collaboration. This finding aligns with the disconnect in student perspectives of Zoom fatigue (Chen et al., 2021) that suggested Zoom fatigue was present when there was too much lost time, or dead air, during a class that took place on Zoom.

Once allocation of time and course structure were established, I noted the telling moments in my narrative that suggested specific instructional practices were essential to the alignment of content and the NACE (2024a) Career Readiness competencies. The instructional strategies are presented with examples that took place during the courses (Figure 1).

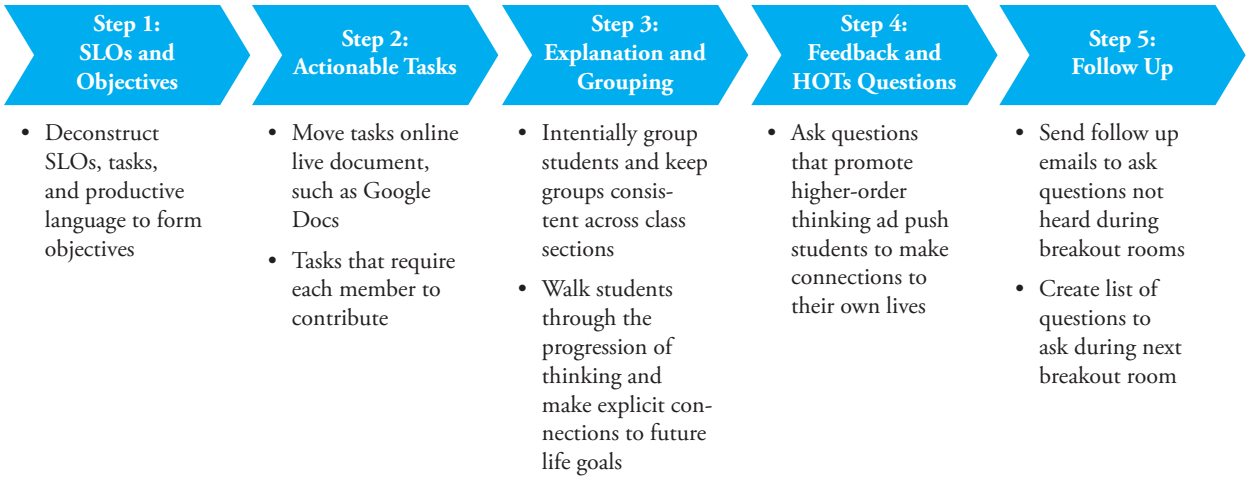
Instructional Practice

Step 1: SLOs and Objectives

I began this approach by first reviewing and deconstructing the Student Learning Outcomes (SLOs) for the course. SLOs were deconstructed and mapped to include tasks for each day of the class. While the SLOs were thoroughly taught and assessed in-person, moving to an online setting that required the professor to keep students engaged throughout the lesson necessitated intentional planning to ensure that each lecture or activity was truly aligned to the SLOs for the course. For example, in FYS, students were expected to engage in critical inquiry and frequent writing when working with multiple texts. I shared the end-of-semester SLO with the students, and discussed the steps they would take that day to help them work towards the task, such as how to engage in critical inquiry with a text and align this inquiry to their writing. Another example was the SLO in Education courses that requires students to collect, analyze, and utilize student data to inform instruction. I shared the end-of-course SLO with the students and discussed how this ambitious SLO would be broken down into smaller, manageable tasks, such as how to collect student data through observation while teaching. Another aspect of deconstructing the SLOs

Engaging Students in Critical Thinking *continued*

Figure 1
Multifaceted Steps to Increase Critical Thinking in Online Learning



was considering the productive language as well as the progression of learning that was necessary for students to demonstrate mastery of the SLOs. For example, when complex content was introduced, students needed the opportunity to process the content through speaking before moving into a written assignment. One classroom example included students engaged in productive language after reading multiple passages. One telling moment I noted was that at the beginning of the semester, many students wanted to complete the task quickly, but the critical inquiry was missing. By having the students engage in productive language related to the texts, which included negotiating meaning of the texts, I observed through my narrative that the student writing increased in level of critical thinking and problem solving as measured by a standardized rubric utilized across all FYS courses.

Step 2: Actionable Tasks

While intentional planning is necessary, actionable tasks engage students during breakout rooms. As a professor, it can be difficult to monitor multiple breakout rooms and ensure all students are on task. I created a Google Doc for each class which included the SLO, the daily objective, and the list of questions or tasks the students should complete in breakout rooms. This course amendment was based on a telling moment that revealed that I spent instructional time restating the questions posed to the whole group instead of engaging in questioning to promote higher-order thinking. This finding indicated that a document with additional information would allow students to spend the majority of their time in collaboration, critical thinking, and problem solving instead of clarifying expectations when in breakout rooms.

For example, in FYS, the SLO required students to engage in critical inquiry of multiple texts to influence a writing sample. When introduced to a new set of texts, I broke the SLO down to manageable pieces, such as paraphrasing the readings into the task of advancing writing samples based on multiple analyses of the texts. The Google Doc would include the main SLO for the course followed by the task for the day. Next, there was a series of questions which utilized Bloom's taxonomy (1956) to engage students in higher-order thinking. For example, aligned with the hierarchy of Bloom's taxonomy, students were first asked to Remember and Understand what they read, such as summarizing the texts. Next, the students would compare and analyze their responses to classmates and negotiate the meaning of the passages. Finally, students would move into Bloom's (1956) hierarchal model of Synthesizing and Creating to apply the new learning by synthesizing the ideas of self and colleagues to form a new idea or stance to the text and connect the finding to their writing. Finally, students were asked on every Google Doc to apply the concepts learned to their future goals: both career and personal.

Engaging Students in Critical Thinking *continued*

This level of collaboration required students to engage in the NACE (2024a) Career Readiness competencies by collaborating to solve problems, communicate, and think critically about how the texts impact their future goals.

On the Google Doc, Bloom's (1956) hierarchal model was shared with students to assist in self-regulation and time management related to their own level of thinking. For example, I discussed the different types of thinking associated with Bloom and how these levels of thinking can aid students in critical thinking. I discussed that Remembering (Bloom, 1956) may only require a few minutes of class time, but to engage in Synthesis and Evaluation, students would need to sift through the complex answers, which required more class time and self-regulation. I also discussed strategies for students to check-in, ensuring all students were participating in the work.

When new content was introduced that required a cognitively demanding task, I utilized the gradual release model (Pearson & Gallagher, 1983) throughout a class using a Google Doc as a visual to explain the necessary thinking to complete the task. The gradual release model releases the responsibility and heavy-lifting from the teacher to the students. This process was informed by my telling moment. My narrative indicated that students were interested in completing all the tasks in the Google Doc quickly instead of being authentically engaged in the critical thinking questions that required students to build on each other's thinking. Slowing down the process and modelling time management and self-regulation provided opportunities for the students to engage in critical thinking.

Through the gradual release model, I introduced new information, had the students engage in application of the content with the professor as the guide, and then moved to breakout rooms to demonstrate application of the daily objective which required the students to demonstrate problem-solving and critical thinking through the collaborative learning process. For example, in FYS, I first modeled how to take multiple texts and begin to summarize the passages before moving students to breakout rooms with different texts. During the questions that pertained to lower-order thinking, such as summarizing a text, I was able to visit every breakout room to check for the participants' understanding.

Once participants returned from breakout rooms, I modeled how to analyze and negotiate meaning from a text and the students analyzed writing samples to identify examples of strong writing practices. For example, I perceived that answers were sometimes "surface-level" or simply a paraphrase of the previous summary. I then modeled a non-example response, such as a response that simply restated the summary. Students engaged in a conversation about why the response was a non-example and how to make the response more complex.

In the Education course, the same model was followed pertaining to data collection, analysis, and the steps to make instructional decisions based on student data. Students first engaged in analysis of a mock class data set and summarized their instructional decisions based on the analysis. Next, students were asked to begin to set goals and develop instructional decisions based on the data presented. My narrative noted this was an area to continue to grow, so non-examples, such as simply restating the student data, were presented and students engaged in a conversation about how to strengthen the response.

Finally, I presented a dilemma or problem of practice related to the world for students to problem-solve related to their course. The dilemmas were diverse based on the students in the classroom, recent events in the news, and the students' discipline. For example, in FYS, students related texts that could be perceived as outdated to events happening in the news or topics related to their discipline. In Education courses, students were asked to identify how the pandemic impacted data collection, but also how data were still utilized to inform instruction. This formative assessment was collected at the end of each class by students sharing their Google Docs with the professor.

Step 3: Explanation and Grouping

While intentional planning was necessary, students were included in the discussion about the course structure on the first day of class. Norms and expectations during breakout rooms were shared with students. At the beginning of each class, I included the objectives for the day, including a clear task, such as solving a complex problem and making connections to future goals. I also explained where the students would demonstrate mastery of the objective, such as breakout rooms, and

how this contributed to progression of application of the SLO. This explanation took less than one minute at the beginning of each class.

While clear explanations of the tasks were essential, intentional grouping of students helped with group accountability and prevented off-task behaviors. In the online courses, students were grouped in breakout rooms with the same students for one third of the semester. A telling moment from my narrative indicated that when students moved into breakout rooms with new group members they would only see for a single class, group participation and depth of discussions were minimal. I also noted more off-task behaviors when students did not have the accountability to meet with the same group the next class. When students worked together for a significant part of the semester, the students were able to engage in deeper conversations, reference previous conversations, and were more likely to equally contribute to the tasks in the Google Doc.

Step 4: Feedback and Higher-Order Thinking Questions

Throughout the progression of higher-order thinking questions presented to students, I monitored breakout rooms to push thinking and guide students to more in-depth conversations, wonderings, and findings throughout their critical inquiry. The length of time that students were in breakout rooms was based on the level of higher-order thinking. For example, if students were paraphrasing a text, they were in breakout rooms for less than five minutes during which I checked in on progress with every group. When students were engaged in critical inquiry that required negotiating meaning, evaluating, and creating, students were engaged in breakout rooms for ten minutes at a time. For conversations that required more time, I still brought the class back together after ten minutes to check-in for questions, have students evaluate their current progress with the dilemma, and revisit next steps. The time allocation and frequent opportunities for check-ins allowed students to move towards self-regulation of tasks. This skill is needed when engaging in similar work in future workplaces.

Based on my narrative, I found that students were able to self-regulate time and conversations and engage in breakout room critical inquiry without my help. However, the guidance of the instructor helped the students to engage in deeper thinking and more complex solutions. I utilized the Google Docs to "jump in" conversations when entering a breakout room so the group did not spend their critical thinking time summarizing the previous conversation to catch the instructor up. If I was not able to engage in this level of conversation with every group, I utilized the Google Docs after class to "see" student thinking and met with those groups first during the next class.

Step 5: Follow Up

After each class, I read the Google Docs of the students I was not able to speak with during class and provided feedback on the Google Docs. Students mentioned that they were motivated to complete the Google Docs because they knew they would receive feedback in the moment or later through the Google Docs. When missed opportunities presented, I kept a list of questions to ask the group during the next class. For example, when presented the first dilemma of the semester, the answers were sometimes textbook answers, or answers I perceived the students were writing only to get the "right answer." This was my telling moment which led to beginning the next class by demonstrating the difference between writing for the correct answer and being engaged in critical inquiry to solve a complex dilemma.

Discussion

Many lessons can be learned from ERT that inform online courses. The purpose of this paper is to share the self-study of course amendments that encourage students to engage in academic content while also developing Career Readiness skills needed for the future. Self-study encouraged me to engage in a thorough self-examination of teaching practices to reform and shape instructional practices while teaching online.

Lessons Learned

The first lesson learned from this process was my perception of student feedback based on my narrative as well as my perception of student evaluations. My narrative included an overview of instructor time spent talking and lecturing before ERT, during ERT, and after ERT. While this does not guarantee students were not engaged, I used my perception of student academic discourse as a measure of engagement. I noted that

Engaging Students in Critical Thinking *continued*

when courses moved online during ERT, I did most of the talking (roughly 90%) in any course. As breakout rooms and Google Docs were implemented, I was able to transform the course back to the instructor being engaged in academic discourse closer to 50% of class time while students were engaged in critical inquiry through dialogic pedagogy for 50% of class time. This accords with Zull's (2004) work that indicated that the transfer of information only from the teacher has the potential to leave students without the same positive emotional response as when engaged with other students. New learning relies on the teacher's background knowledge, not the students' background knowledge, to make sense of cognitively demanding tasks.

The second lesson learned included my perception of student preparedness with technology tools and the need for training for specific tools. For example, my narrative revealed that students were able to engage in learning with Google Docs and breakout rooms without any interruption in instruction. This finding was present in both discipline-specific courses: Education and FYS. My narrative revealed that students in both Education and FYS courses had a delay in implementation of technology tools such as Whiteboard, Jamboard, Mentimeter, and Polls. This finding was based on my telling moment that suggested students seamlessly engaged in instructional tasks when utilizing Google Docs and breakout rooms, but had a delay in collaboration when presented with new technology tools due to students inexperience with the tool, i.e. "clicking around" and asking questions about how to use the tool, instead of engaging in the task. Making additional training available to students outside of the synchronous class time will provide students with the opportunity to engage with the technology tool before class begins.

Additional Research

In order to protect the voice of former students and ensure that future students provide authentic student evaluations, direct student quotes were not utilized for this study. I analyzed the author narrative once student surveys were analyzed. My narrative included my perception of a positive change in student evaluations, but additional research is needed to gain student voice. Now that students are accustomed to online learning, and former students who engaged in online learning during ERT are in their careers, additional data pertaining to student voice would be beneficial.

Implementation

Using Google Docs as a common resource to clearly communicate SLOs, application of content, and provide students individualized feedback was an effective and cost-efficient strategy to implement when learning takes place online. While I employed Google Docs, any live platform that allows the students to edit and share with their professor could be utilized if the students have experience with the technology tool before class. This commentary focused on the instructional practices of one professor over multiple courses; however, this approach could easily be implemented across a campus and in different modalities, such as asynchronous. With each instructor using the same format for online learning, this would allow instructors to save time reviewing the norms during breakout rooms. Using a common, live document that allows students to monitor their thinking while collaborating with classmates increases the skillsets students need to engage in the future workforce.

Engaging Students in Critical Thinking *continued*

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ESSAY

Towards a Collaborative Approach and Structure for Engaged Research

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Abstract

The evolving relationship between research and its impact on communities has sparked ongoing discussions. Traditional research methods are criticized for having limited societal influence due to their restricted accessibility. Engaged research emerges as a transformative methodology, emphasizing collaboration with communities in research design and knowledge production. This paper advocates for the integration of engaged research into higher education curricula to foster civic and social responsibility. This paper explores four cases of integrating engaged research into teaching, drawing on examples from University College Cork in Ireland, Koç University in Türkiye, and the University of Oulu in Finland. At University College Cork, a three-part approach combines lecturer presentations and class discussions, interactive class activities, and student-led engaged research projects. Koç University's Social Impact Forum in Türkiye emphasizes social impact through engaged research initiatives. In Finland, the University of Oulu incorporates research-based pilot projects in land-use planning, alongside a research and development course that empowers children to take an active role in the learning process. The authors argue that such integration enhances the impact of research, nurturing engaged citizens for transformative initiatives.

Keywords:

community-based research, engaged research, teaching in higher education, transformative teaching

The discrepancy between the outputs of the academic field and the communities that they consider the subject of study has been an issue for some time. Academic studies have been criticized for needing to engage with the communities they truly aim to impact. Research papers and books in libraries and databases are reached by a small percent of the public who have the privilege to access scientific output, thus having only a limited impact on societies. Traditional methods are appraised for approaching the communities as objects of study only, not as equal subjects who could participate in research design and knowledge production. These traditional approaches so far have led to a paradoxical consequence, limiting science within the scientific community while claiming to be producing solutions to societal problems. Meanwhile, higher education institutions are expected to contribute to system-level changes and innovations that could accelerate local transformations for sustainability (Pontikakis et al., 2022). Why are "the resources of universities and colleges not being used to improve the

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lives of citizens in the surrounding communities or in communities nationally and globally?" (Fontaine, 2006, p. 46).

In order to address this paradox, various methodologies are being developed. In engaged research, city and community engagement in research design and knowledge production is the basis. Engaged research is an overarching term that describes a wide range of comprehensive research approaches and methodologies that share a common interest in collaborative engagement with and within society. These methodologies include community-based participatory research (CBPR), participatory action research (PAR), and similar methods that aim to create social impact. Engaged research is conducted collaboratively with community partners rather than for them, involving active and meaningful input from all stakeholders throughout the research process (Campus Engage, 2019, p. 2). This partnership involves planning and conducting research together with community members and stakeholders who, as co-researchers, can shape the priorities and methods of the research (Banks et al., 2013; Bergold & Thomas, 2012). The significance of engaged research and its benefits to both academia and society can be summarized as follows: Fundamentally committed to academic freedom and the public good, engaged research aims to improve, understand, or investigate issues of public interest where societal partners are active collaborative participants in the research process. It nurtures democratic competencies through participation—from defining research needs to the co-creation of knowledge and equitable and reciprocal knowledge translation to and with society. Committed to sustainability and inherently transdisciplinary, it explicitly builds awareness of the interconnectedness of the social-ecological systems. Imbued with different knowledge traditions (expertise, practice, experience, and wisdom), it is manifestly impactful research that has an emancipatory and transformative social justice orientation—consistently pursuing intersectional understanding towards greater social solidarity, diversity, inclusion, and equity.[1] This approach to engaged research not only fosters collaboration but also ensures that the outcomes contribute meaningfully to societal change and address global challenges.

This paper argues that engaged research methods should be integrated with teaching and learning at undergraduate and postgraduate levels in higher education institutions. Engaged research, which brings about civic and social responsibility in higher education, is recommended because it improves both the quality and impact of research (Holliman & Warren, 2017; Van De Ven, 2018). Hence, community, stakeholder, and practitioner engagement and participation are essential in engaged research. The integration of research into the life of a community, especially in formal and informal educational contexts, requires training its members in the knowledge, skills, and values that empower their position with respect to the professionalized scientific community. Citizens, in their different roles and functions, are the key to processing committed research, knowledge generation, and the implementation of transformative initiatives (San Salvador del Valle, 2023). Indeed, there is a growing interest in embedding engaged research into teaching practices at higher education institutions. Campus Engage (2019), the national platform for community engagement in Irish higher education, expresses concern that the "insufficient integration of engaged research methodologies into undergraduate and postgraduate education" is one of the challenges to advancing engaged research (p. 3). Thus, there is a need to develop curricula around this understanding. This paper aims to share four cases of embedding engaged research into teaching and envisaging a way forward for engaged research in higher education curricula from the University College Cork, Ireland; Koç University, Türkiye; and the University of Oulu, Finland. These institutions are connected to each other within the UNIC European University of Cities in Post-Industrial Transition and have been learning from and collaborating with each other to enhance engaged research since 2021.

Case 1 presents a threefold model for integrating engaged research into education based on the experiences in Ireland. The three levels by which engaged research can be integrated into teaching and learning move from lesser to greater degrees of student involvement in the learning process: a. lecturer presentation and class discussion, b. class activities, and c. students conducting engaged research. Case 2 focuses on Koç University Social Impact Forum (KUSIF), which supports experiential learning and engaged research to develop students' skills related to social impact issues in Türkiye. Case 3 presents two research-based pilot projects at the University of Oulu in Finland, focused on interactive land-use planning

teaching and learning based on authentic learning and aimed at fostering engaged research. The fourth case, again at the University of Oulu, presents experiences from a research and development project course that aims to empower children in Finland.

Case 1: University College Cork (UCC), Cork, Ireland

Reflecting on efforts in the School of Applied Social Studies, University College Cork over several years, this case presents a threefold model for integrating engaged research into higher education. The argument is that engaged pedagogy, or active, participatory teaching methods, lies at the core of teaching engaged research. This necessitates de-centering oneself as a lecturer in the classroom, embedding student participation to complement lectures, and integrating multiple pedagogical methods to accommodate multiple learning styles (Saltmarsh, 2010). The three levels by which engaged research can be integrated into teaching and learning move from lesser to greater degrees of student involvement in the learning process—from lecturer presentation of research and class discussion (Level 1), to in-class student activities (Level 2), to students conducting engaged research (Level 3).

In **Level 1**, the lecturer presents and discusses with the class aspects of research relevant to the syllabus. In subject-specific modules, findings, graphs, and participant quotations from engaged and community-based participatory research (CBPR) are integrated to bring an issue to life and develop students' research understanding. Some classes incorporate detailed case studies of engaged research projects. The use of case studies as a teaching tool brings real-world examples to the classroom, provides opportunities for students to think critically, and increases their depth of understanding (Holmes et al., 2022). The case studies explore methods of working with communities, project findings, and impacts. They also explore the theoretical paradigms in which engaged research is situated and the values of participatory research, which Etmanski and Pant (2007) argue are as important to communicate as the process of doing research (p. 277). Guest speakers from the community are also invited and publications are shared on the UCC virtual learning platform.

Level 2 entails a more sustained participatory pedagogical design involving student activities, research exercises, and inquiry/problem-based learning, which may include minor assessment. For example, in an undergraduate research methods class, students read methodology excerpts from engaged research articles, reflect on the methods and steps (including how to build and maintain trusting relationships), compare the approaches and how they differ, and discuss them in small groups, otherwise known as "pair and share." In another class, students conduct a creative research exercise by listening "as a researcher" to rap music produced by young people during research on regeneration (Byrne et al., 2020), considering what the lyrics mean, and discussing it in groups. In a different class, students explore participants' experiences of the research process through recorded audio/video from public events and discuss the impacts, benefits, challenges, and ethics of engaged research (O'Sullivan et al., 2023). At the graduate level, students conduct reflective exercises as "professionals in training", e.g., considering how public policy could or should respond to community concerns.

In **Level 3**, students conduct community-based research and project-based learning, working on projects designed by, or in collaboration with, community partners. This work is usually supervised and assessed through the Community/Academic Research Links initiative (CARL), UCC's Science Shop that was established in 2006. CARL invites non-profit voluntary or community organizations (Civil Society Organizations [CSOs]) to suggest potential research topics that can be pursued by students on their behalf across a wide range of academic disciplines in UCC. CARL's mission is to provide independent, participatory research support in response to concerns experienced by civil society. There are four phases or steps in a CARL project. The first phase involves identification of the research question, whereby community and voluntary organizations (who are non-governmental, non-profit, and not representing commercial interests) develop research ideas that matter to them and send a project proposal form to CARL. In the second pre-planning phase, projects are reviewed by an Advisory Community. If accepted, these projects are placed on a database and can be researched by students who apply to undertake a CARL project. The students must meet a high-grade average and have a

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letter of recommendation from a tutor to be eligible. If accepted, they are matched to a community organization by the CARL coordinator. In the third phase, project management gets underway with an initial planning meeting between the organization, student, CARL coordinator, and academic supervisor. The student then undertakes research with regular support and input from their supervisor and the community organization. In the fourth dissemination phase, the student's report is presented to the community organization after the examination process. If it reaches a particular grade threshold, it is placed on the public CARL website. A follow-up meeting is also held with the community organization to discuss recommendations and how to implement findings.[2]

Projects are wide-ranging; for example, an undergraduate social science student undertook a project with the Eating Disorder Centre Cork where she surveyed General Practitioners (GPs) to gain greater insight into their understanding of eating disorders. Her project resulted in a follow-up study with the School of Dentistry, and the organization is carrying out her recommendations.[3] One of the other successes of CARL is that it systematically engages postgraduate students who "represent a unique population to engage" as they possess academic and professional sophistication with the potential for sustained engagement (Stanton, 2008, p. 34). For example, a postgraduate social science student partnered with a community development organization in a deprived area of Cork City and developed a participatory methodology to document the impacts of a learning program (Learning Neighbourhoods) on communities and organizations. His project provided recommendations for sustainable models of practice and has informed the ongoing development of the program. In documenting their motivation for engaging in CBPR projects, students noted the importance of having "some form of real-world applicability" to their research.[4] Furthermore, they highlighted the benefits that "operating in a real-world context" would bring, including creating "a more demanding project environment…resulting in the creation of a more accurate and appropriate…solution [to the research question]" (Bates & Burns, 2012, p. 73).

Other initiatives in CBPR by colleagues at UCC include the development of a CBPR Ph.D. module to equip graduate students with community engagement skills by working with a societal partner. These collaborations successfully generate CARL proposals that future students can undertake (Hally et al., 2020). Opportunities for students to conduct research were also developed using an engaged research project. In collaboration with the UCC Centre for Adult Continuing Education (ACE), the municipal authority, and community organizations, a partnership was formed with mature students living in a highly deprived area to co-create a household survey on the regeneration of their community (Cullinane & O'Sullivan, 2020). The students became field researchers in their community, and several undergraduate students also joined the fieldwork. Evaluation of this engaged research project through one-on-one interviews showed the impact on student learning and their commitment to the community, including the development of new skills, knowledge, and confidence (Cullinane & O'Sullivan, 2020). Two of the mature students subsequently completed degrees in community work and now work in the sector. This illustrates the impact of such approaches in not only enhancing the student experience but also potentially altering their life trajectories.

Overall, integrating engaged research into undergraduate and postgraduate education through diverse ways can "infuse and enrich teaching and research with a deeper sense of context, locality and application" (Lazarus et al., 2008, p. 60). The three levels can facilitate students to understand the dynamics and uses of "real-world" research, bring to life the methodological approaches they are studying, and support them to undertake engaged research for social justice and change. As Bates and Burns (2012) highlight, a CBPR approach in education brings reciprocal benefits. It enables students to gain valuable experience through "opportunities to work on live research questions in a real-life context outside of the HEI," enabling them "to learn with and from communities," who benefit from research insights that can contribute to changes in practice and policy (Bates & Burns, 2012, p. 69). Thus, integrating engaged research into higher level education ensures that the university is responsive to the challenges faced by communities.

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Case 2: Koç University, Istanbul, Türkiye

Koç University Social Impact Forum (KUSIF) was established in 2012 to be "the Research and Practice Centre" on social impact.[5] KUSIF works with social impact actors such as NGOs, social entrepreneurs, responsible businesses, and funders to increase their capacity on social impact measurement and management. KUSIF is the founding member of two networks in Türkiye, Turkish Social Entrepreneurship Network and Social Value Türkiye, and has published research and practical guides on social impact and social entrepreneurship. At the academic level, KUSIF has expertise in impact education, i.e. teaching students how to understand and be part of the solution of societal problems to contribute positively to sustainability. KUSIF has two practice-based courses, "Social Impact Project Management: An Experiential Learning" and "Social Entrepreneurship," under the academic track program "Sustainability and Impact Management." Additionally, other units of the university and faculty can get support from KUSIF to integrate social impact into their work and benefit from KUSIF's societal network for their courses and projects.

Engaged research and experiential learning are fundamental to KUSIF's impact education. The "Creating Social Impact through Collaborative Project Management: Experiential Learning" course provides students with a theoretical approach as well as practical experience to become impact thinkers when they learn to ask and answer five impact dimensions—what, who, how much, contribution, and risk—to understand how a project or organization could maximize impact.

Each semester, KUSIF partners with a diverse range of impact organizations which commit to working with KUSIF and allocate time to students during the semester. Each partner organization brings to the class one impact project. If it is a small organization, the organization can instead be studied. Experiential learning and engaged research are incorporated into the class to help students gather information from stakeholders, enabling them to answer ten impact-related questions and contribute to the final report.

This process supports the class's exploration of the main research question: "How could this project or organization have a greater impact?"(Maximize Your Impact Guide, p. 20).[6] Through the semester, partnered organizations benefit from the engaged research on social impact that the students are doing for their organizations. They use the results to improve their products and services to create a constructive impact on their beneficiaries, customers, and other stakeholders in their communities. In return, students learn about the impact network, i.e. different kinds of impact organizations, and work with real-life community problems in the field. The key take-away for the students is to avoid impact washing —falsely claiming outcomes without making substantial changes or delivering genuine benefits—and to understand the different characteristics of social impact to effectively manage it.

The main challenges around conducting engaged research and experiential learning classes are stakeholder management and time management, as many stakeholders are involved, and these classes take more time and effort. Additionally, there are significant aspects to be considered concerning students' learning process.

The first important aspect is giving students the option to work on topics that interest them most to enhance their learning and encourage further action after the course. Second, is partnering with different organizations from various thematic areas among social impact actors to increase student learning on impact ecosystem and empathy for important community issues that they are not faced with in their daily lives. Third, engaging with stakeholders requires a feedback process to improve the course and the experience of stakeholders. Short online surveys are submitted to partner organizations of the course at the end of each class. For students, besides the university-wide course evaluation and feedback process, the last lesson of each course is devoted to face-to-face evaluation. Additionally, during written team evaluation, students evaluate themselves and their team members and assess the course with open-ended questions. Centers, units, or different institutions like KUSIF, which have in-depth relations with the community and impact networks in higher education institutions, have a great potential to connect students to the community.

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Case 3: University of Oulu, Oulu, Finland

This case describes a research-based pilot connected to interactive land-use planning teaching and learning, based on authentic learning and aimed at engaged research in Finland. Municipalities play a significant role in land-use planning in Finland, as they are responsible for land-use planning and local plans in their respective areas. The Land Use and Building Act, enacted in 2000, increased the municipalities' independent authority to decide on detailed plans.[7] At the same time, the law introduced the obligation to prepare plans in interaction with those whose conditions or interests are affected by the plans. This change reflects a broader communicative turn in land-use planning (Healey, 1997). The legal requirement for interaction has created a need to develop new methods and practices for interactive land-use planning. The Oulu School of Architecture at the University of Oulu has actively researched the topic and carried out various pilot experiments.

The pilot experiments are integrated into the Municipal Planning course and the Extension Course in Urban Planning and organized annually in the Urban Planning discipline.[8] The two courses have been implemented in collaboration with municipalities in Northern Finland for several years. The courses adhere to the principles of authentic learning (Herrington & Oliver, 2000). The collaborating municipalities have been located up to 700 km north and 350 km south of Oulu, illuminating Finland's sparse population and long distances.

In cooperation with the municipality, an area requiring land-use planning is selected as the target area for the courses. The plans prepared by the students include strategic land-use development scenarios, detailed plans, written reports, and impact assessments. The courses experiment and pilot new data collection, co-creation, and interaction methods. These pilot experiments are often based on externally funded scientific research projects, integrating the knowledge produced by the research and the expertise of the researchers into teaching. In the next section, the implementation of one research-based pilot experiment will be briefly described.

In the fall of 2008, the Municipal Planning course focused on the small village of Sevettijärvi in Inari, Finnish Lapland, near the border of Norway and Russia. Sevettijärvi is a Skolt Sámi village characterized by its unique Skolt Sámi language and traditional livelihoods. The future of Sevettijärvi as a Skolt Sámi village is under threat, as many young people are moving away in search of better job opportunities and education, and the population is aging. The previous planning history of the village has been influenced by different values and interests related to land use. In land-use planning, there was a need to consider the aim of strengthening the Skolt Sámi community's culture and continuity of the traditional way of life.

Under the Municipal Planning course, new participation and interactive planning methods were tested. The course began by establishing a discussion forum involving all possible stakeholders, like the Skolt Sámi community, the Sámi Parliament members, and representatives of the Inari municipality. Various platforms were created throughout the course to facilitate interactive planning and information exchange. These included internet-based participation tools, involving local Sámi community school children in information gathering, and open discussion sessions, where land-use plans were presented. The establishment of these forums and the involvement of researchers in their preparation were based on a research project funded by the Academy of Finland called Participatory Urban Design Support with Advanced Information Technology Environment (PUDAS; see, e.g., Hentilä et al., 2009; Nuojua et al., 2010; Molin-Juustila et al., 2010, 2014).

Architects and information technology researchers collaborated closely on the project. The forums for information production and dissemination were twofold.

Forums with one-way information flow

These included lectures for university students (by their own teachers and visiting experts), independent information retrieval (from the internet, literature sources), feedback from the local stakeholders received by university students through project websites, the "Tell a Story" Mobile app, responses from a resident survey, guidance provided to university students by their teachers and visiting experts during planning studio sessions and learning through their own engagement in the process.

Forums with two-way (communicative) information flow

These involved visits to Sevettijärvi and discussions

and interactive seminars with local stakeholders for co-creation and evaluation of the land-use planning proposals, including environmental and societal impact assessments, group work, and interaction with other university students.

The forums facilitated the emergence of creative ideas and allowed for the expression of tacit knowledge (Polanyi, 1983). This would not have been possible without the engagement of local participants. At the beginning of the land-use planning project, the university students had limited knowledge and information about reindeer herding or other traditional aspects of Skolt Sámi culture. Finding relevant information through independent research, such as literature sources, would not have replaced the knowledge generated through the interactive process. In each interaction event, new valuable insights based on local tacit knowledge and culture emerged. For example, the reindeer grazing areas and routes were included to the plan based on the interaction. The local stakeholders gave their feedback on the engaged project through a dialogue in an on-site meeting where the students presented the final project outcomes. Feedback from the students was gathered via a course review. In both cases, the feedback on the engaged way of working was positive. The engaged approach aided in creating a locally rooted land-use plan as a result, as well as offered an authentic learning environment and new skills for the future land-use planners.

Case 4: University of Oulu, Oulu, Finland

This case presents experiences from a research and development project course which aims to empower children in Finland. In this case, the approach to engaged research has been inspired by nexus analysis, transdisciplinary research, Scandinavian participatory design, and empowerment theories. Nexus analysis emphasizes in-depth ethnographic inquiries and close collaboration with research participants to address issues important for them (Scollon & Scollon, 2004). Trans-disciplinarity underscores reciprocal interaction among multiple disciplines, transcending the disciplinary boundaries and offering a holistic approach with integration of participants other than researchers (Choi & Pak, 2006). Scandinavian participatory design brings in the need for participants' active, effective, and meaningful participation, underscoring that they must have a voice in issues affecting their lives. This requires equalizing power relations, democratic practices, mutual reciprocal learning, valuing each other's expertise, and a reflexive, ethical, and responsible stance (Greenbaum & Loi, 2012; Luck, 2018; Pihkala & Karasti, 2016). Closely aligned are theories on empowerment highlighting the need to enable participants as well as larger collectives, particularly those marginalized or oppressed, in the sense of increased power of decision, meaningfulness, choice, impact, and competence (see, e.g., Iivari, 2020).

The approach to engaged research has been embedded into teaching through the "Research and Development Project" course, targeted to master's students specializing in Information Systems, Human Computer Interaction, or Software Engineering. The course aims at building professional expertise in the IT field, the topic of the project, project work, and management. The course is followed by a presentation in a Project Seminar course. This combination aims to make students see the connection between real life IT project work and research related to it, thus increasing their academic expertise. In practice, the course entails working in approximately 4-person project teams for 260 hours each. The project topics are proposed by customers, whom the projects serve. A customer representative is in the steering group of the project, making decisions on the project. The students are allowed to select projects they are interested in.

The researchers have proposed several project topics for student projects as customers, inviting master's students to work for the empowerment of children in and through design and digital technology in the context of their basic education. As customers, we have approved their project plans, organized meetings, provided literature suggestions and guidance on research and design ethics and methods, and participated in practical work at schools. The projects have included children in participatory design of digital portfolios, music learning environments, future schools, games, and digital tools to tackle bullying. Children's empowerment has been addressed in different senses (Iivari et al., 2023; Ventä-Olkkonen et al., 2021; Ventä-Olkkonen et al., 2022): as increased decision-making power or perceived meaningfulness, choice, self-efficacy, and impact in relation to design, digital technology, and anti-bullying interventions, or, in a collective sense, as a feeling of social responsibility, addressing collective

concerns, and empowering a group to take action. We collected data on the experiences of the students in the projects through dedicated project documentation, which indicates that the master's students found the projects valuable, enjoyed the work, and appreciated the opportunity to address societal problems, work on behalf of marginalized groups, and build expertise in design, digital technology, children's computing education, empowerment, participation, stakeholder engagement, anti-bullying interventions, project work, project management, and (engaged, transdisciplinary) research (Kinnula et al., 2018).

Collaborating with master's students has created considerable value for the projects. Students' work on empowerment of children has been invaluable for the children. The projects have generated an extensive empirical dataset on which numerous master's theses and publications have been written. Deep insights have been attained into how political, disciplinary, historical, social, ethical, and practical aspects are intertwined in empowering children in and through design and digital technology in the context of their basic education (Iivari et al., 2015; Iivari et al., 2018; Iivari et al., 2020; Iivari et al., 2023; Kinnula et al., 2018; Molin-Juustila et al., 2015). For instance, we have shown that very divergent discourses on children's participation may emerge in the projects despite a genuine desire to empower them, and that various forms of exclusion may be prominent in children's empowerment projects. Furthermore, we have revealed that children may address empowerment in their designs in very different senses even if given the same assignment. We have also elaborated on how humor, imitation, and recycling provide valuable resources for participatory design among children, and how both adult and child participants, with their histories and established practices, collaboratively shape the design process and outcomes.

Conclusion

Integrating engaged research and teaching is a reconsideration and expansion of the definitions of research, teaching, and learning not only for academics but also for students, universities, and communities. It is a strategy that serves academia, students, and societies of the twenty-first century since it enables co-creation and co-design opportunities. Embedding engaged research into teaching can be challenging if the re-conceptualization has not been achieved, engaged research is not an institutional priority, or if there is limited awareness about the concept, its benefits, and various methodologies. In fact, Fontaine (2006) has touched upon the fact that faculty review committees or administration may tend to view community engagement or participatory research activities as service-providing rather than scholarship. Due to this view, engaged research might not be an institutional priority. However, nodes such as CARL (Ireland) and KUSIF (Türkiye) provide a sustainable, institutional basis which both interested scholars and students may look up to, be inspired by their best practices, learn the key takeaways, and consult experts in these centers while developing their own engaged research. These centers may stand as a "home" to students who enter and depart higher education in a few years. Finally, these centers hold the potential to build trust within the communities that the universities are situated in. Through UNIC European University, which values multi-disciplinary collaboration, CARL and KUSIF are expected to enhance their impact across different faculties.

The four cases from University College Cork, Koç University, and the University of Oulu provide different, successful, and locally accustomed techniques and methods of embedding engaged research into teaching in various disciplines after a thorough evaluation of the needs of both students and the societies in general. They also present insights about the outcomes of this integration. The highlighted benefits in all cases are reciprocally valuing the academic environment, students at all levels, and communities at large. These best practices prove the importance of engaged research in linking higher education institutions to the communities that they are in. All four cases illustrate the ways in which students may start building relations to their communities through academia at early stages. These experiences have an impact on their future careers. Finally, all four cases emphasize: the significance of collaboration with community partners; student engagement in the research process; incorporating multidisciplinary and transdisciplinary methods, blending different fields of study and incorporating diverse perspectives to address complex societal issues; and the importance of applying research to real-world contexts. Continuous best practice sharing is essential for further developing the

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understanding of research-based teaching and learning within UNIC European University and among societal partners as well as for a successful transformation of higher education with a research orientation.

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Footnotes

[1] For more information, please visit: https://unic.eu/en publications.

[2] For more information, please visit: https://www.ucc.ie/en/media/research/carl/CARL_CampusEngage_CBR_Process_Map.pdf

[3] For more information, please visit: https://www.ucc.ie/en/media/research/carl/2016_Hazel_McDermott.pdf

[4] For more information, please visit: https://www.ucc.ie/en/media/research/carl/EamonNashCARLreport2020.pdf

[5] For more information, please visit: https://kusif.ku.edu.tr/en/

[6] Maximise Your Impact: A Guide for Social Entrepreneurs https://kusif.ku.edu.tr/wp-content/uploads/2019/01/MaximiseYourImpact-1.pdf
Impact Thinking Approach https://kusif.ku.edu.tr/wp-content/uploads/2019/01/MaximiseYourImpact-1.pdf

[7] For more information, please visit: https://ym.fi/en/land-use-and-building-act

[8] Course link: https://opas.peppi.oulu.fi/en/course/454505S/4294?period=2023-2024
Course link: https://opas.peppi.oulu.fi/en/course/454560S/4521?period=2023-2024

TEACHING REPORT

Optimizing Practitioner-delivered Podcasts as Learning and Teaching Tools in Higher Education: Learner and Teacher Viewpoints

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Abstract

Supporting increasingly diverse cohorts of learners in Higher Education (HE) requires commitment to developing accessible, inclusive learning environments, creating non-traditional and diverse learning materials, and drawing on appropriate technologies to deliver these ambitions. Practitioner-delivered podcasts may help enhance accessibility within learning environments, helping to make learning accessible to a greater number of individual learners. Little is known about what distinguishes relatively more from relatively less effective podcasts. We content-analyzed free text survey responses from learner and teacher stakeholders to understand what factors optimize (or inhibit) the effectiveness of podcasts as learning tools. We identified five core considerations involved in developing podcasts to promote accessible HE learning environments, including: using clear, accessible language; adopting a clear structural approach; keeping podcasts relatively short; successfully integrating podcasts with other learning materials; and ensuring a coherent approach across podcast recordings. Suggestions for how to conceive and plan podcasts, record and deliver podcasts and for post-production, and the role of supplementary materials linked to podcasts are offered.

Keywords:

practitioner-delivered podcasts, podcasting, accessibility, non-traditional learning materials, content analysis

In Higher Education (HE), there has been considerable innovation within learning and teaching practices to enhance and assure the quality of accessibility and inclusivity in learning environments. For example, from a UK perspective, Advance HE (2020), a charity whose strategic focus is to drive sector improvements, has published a series of practical resources, case studies, and competency standards which partly focuses on developing accessibility within learning environments.

One approach available to HE teaching practitioners for enhancing inclusive learning is to offer differentiated learning resources that are designed to enhance accessibility within learning environments. For example, auditory learning resources, such as audio recordings, are created by teaching practitioners to develop understanding inclusively across a cohort of learners. Audio recordings designed for educational purposes in HE environments have been discussed as "podcasting for learning" and are recognized to appear in different forms including podcasting for assessment and feedback, to personalize learning environments, and to provide learners with dynamic, flexible, and reusable learning resources (Salmon & Edirisingha, 2008). There has been ongoing debate about whether, how much, and how podcasts used in learning environments positively impact learning outcomes. For example, a recent systematic review of 17 eligible studies suggested equivocal evidence for a clear positive impact of podcasts on learning, and attested to the value of podcasts among learners as one mechanism for deeper, more sophisticated curriculum engagement (Gunderson & Cumming, 2022). This supports previous discussions that podcasts may work best when used to supplement traditional teaching resources (e.g., PowerPoint slides, Word documents)

(Evans, 2008; Walls et al., 2010).

A contemporary community of practice has begun to emerge around the scholarship of podcasting. For example, project work involving interviews with 101 academics who use podcasting in some way in their learning and teaching practices has emphasized how podcasts represent an "insurgent craft" that can cultivate a climate of collaboration, greater transparency in debate, intellectual curiosity, and, ultimately, a transformative approach to scholarship (Cook, 2023). Recent empirical research complements these conclusions by suggesting how the transparency and collaborative feel of podcasting as an approach may strengthen the quality of communication within learning environments. For example, exploratory work conducted to understand learner and teacher stakeholder viewpoints from Education and Psychology disciplines has provided evidence that podcasts may play a valuable role in terms of cultivating learner-teacher rapport to enhance learning experiences and outcomes (Conroy & Kidd, 2022). These findings also accord with the conclusion of Gunderson and Cumming's (2022) review that podcasts may help foster "deeper engagement" in learning environments. The full scope of pedagogic applications of podcasts has grown considerably over the last twenty years and more recent podcasting for learning and teaching research demonstrates movement away from their singular role as solely practitioner developed and delivered learning guides and towards applications driven by, and involving, learners themselves. For example, Canadian research conducted with 19 social work undergraduate students has demonstrated how student-produced podcasts may promote a social justice agenda and help support meaningful links between universities and surrounding relevant community stakeholders (Ferrer et al., 2020).

The term "podcast" itself refers to an earlier technological form: the distribution of (in this case radio) content through broad "casting." Early attempts to define a "podcast," now a contested term, came from the recognition of the rise of the ubiquity of the portable MP3 player (such as an iPod) and the possibility for this device to receive and store audio content on-demand. Early academic definitions of the term "podcast" have focused on the "publishing of sound files on the internet…users subscribe to podcasting via designated software," permitting listening in any location thereafter (JISC, 2005, p. 57). At the time, this was both new and potentially revolutionary. The application of these sound files has given rise, within emergent and ongoing practices, to a range of different "pod-agogies" (adapted from Rosell-Aguilar, 2007). The authors' own work within the field recognizes the ambivalent nature of the term "podcast" yet at the same time the multiple and changed/changing potential applications of podcasts for learning and teaching (Kidd, 2009; 2012; Conroy & Fletcher-Saxon, 2024). These changing applications include educational podcasts for delivering learning content (circa 2000s meaning), educational podcasts produced by learners for assessment and learning purposes (circa 2010s onward meaning), and educational podcasts for hosting and spurring discussion and debate between educators, learners, and other stakeholders of education (circa 2020s onward meaning).

What We Mean By and How We Use Podcasts

As acknowledged above, "podcasting" has become a contested term referring to a variety of ways in which audio recordings can be applied within the context of learning in HE environments. We recognize that the origins of the term "podcast" itself are subject to ambiguity since, in many senses, the specific audios are not "cast" and neither are they solely for use on an "iPod." We also recognize the rapid pace of change and agility of these audio practices and the broader contemporary popular cultural association of the term "podcasting" as, typically, a series characterized by a presenter-facilitated discussion on a given topic area to which consumers digitally subscribe. Meanings of podcasting in 2024 differ to meanings in the 2000s and 2010s and, inevitably, future meanings. We argue that creative, plural understandings of any technology applied to learning environments are important to help ensure the widest possible range of applications of value to learners and educators alike. As practitioners, we recognize the changing cultural meanings around the term "podcast" and deliberately use the term, flexibly and authentically, in the current article to refer to any stored sound file (generated under a wide range of circumstances and by a wide range of users) deployed for learning and teaching purposes.

The intended pedagogic purpose for using podcasts in our own teaching practices is to develop and enhance accessibility and inclusivity in learning environments.

We have used podcasts in our learning environments to help address core learning concerns. For example, we have both developed podcasts involving discussion of intended learning outcomes or summative assessment requirements and podcasts outlining successful study planning approaches. In our view, "practitioner-delivered podcasts for learning and teaching" ("podcasts" hereafter), despite being followed by newer technologies (e.g., the visual and synchronous working affordances of platforms like Microsoft Teams), remain appealing as a relatively simple, low-tech resource for promoting accessible, inclusive learning environments.

The Current Study

Though podcasts, as defined above, appear to carry promise as a resource to support higher quality learning experiences and outcomes, there remain perennial questions surrounding what qualities would distinguish relatively more from relatively less effective podcasts. For example, questions could be raised around what constitutes an effective delivery approach, or what equates to an optimal delivery style, podcast length or structural approach. Indeed, the need for research that focuses on optimizing the design characteristics of podcasts for learning has been advocated in recent empirical work (e.g., Kelly et al., 2022). Such research could help cultivate an evidence base supporting key features that characterize more and less effective podcasts, but can also translate into something of immediate practical value to practitioners: both those new to using podcasts and teachers wishing to streamline the delivery of their current or planned podcast resources. This study intends to contribute to discussions around when, how, and why (not whether) podcasts, in their presently understood definition and application, are useful in teaching and learning environments in HE. This contribution to understanding particularly focuses on design characteristics of podcasts—e.g., what, sonically, aesthetically, or in terms of content or approach, produces a resource that is useful for learners. We also wanted to explore whether valued aspects of podcasts differed or accorded between learners and teachers. Accordingly, we sought to address the following overarching research question: What factors improve (or limit) a podcast's effectiveness as a learning resource?

Method

Participants

A convenience sampling approach was adopted in this study. Feedback was provided by a total of 16 individual participants (see Table 1). This sample comprised ten learners (8 Psychology; 3 Education) and five teachers (2 Psychology; 3 Education). A sample size of 16 is sufficient for exploratory research to gain initial data to guide understanding in subsequent work and is consistent with approaches taken in comparable published educational work. For example, recent qualitative educational research exploring educator experiences with postgraduate psychology students concerning approaches with professional competence issues featured twelve interviewees from a single stakeholder group (North American academics) yet generated a range of findings with clear theoretical and practical applications relevant to the study phenomenon (Quinlan et al., 2024). Our sample was relatively mature (mean age = 34.8 years) and included more women than men (75% female learners), though we note that this was representative of the age and gender complexion of Education and Psychology courses in UK HE. Learner participants were recruited in-lecture, via forum posts, and through email recruitment drives. Teaching feedback was provided by departmental colleagues via word-of-mouth requests and email recruitment drives.

Table 1

Study Sample

Manuscript reference code	Sex	Age (years)	Themes/ Sub-themes illustrated by participant data*
Psychology participants			
LPyF1	Female	40	1.1, 2.2, 3.2
LPyF2	Female	57	1.1, 2.1, 5.2
LPyF3	Female	24	1.1, 3.1, 5.1
LPyM1	Male	39	2.1, 3.1, 5.2
LPyF4	Female	41	2.1, 4.3
LPyF5	Female	25	4.1, 5.1
LPyF6	Female	36	1.1, 5.2
LPyF7	Female	31	3.1, 4.2, 4.3
TPyF1	Female	32	4.2
TPyM1	Male	48	1.1, 3.2, 4.1, 4.3, 5.1
Education participants			

Optimizing Practitioner-delivered Podcasts *continued*

LEdF1	Female	27	2.2
LEdM1	Male	34	2.2, 3.2, 5.2
LEdM2	Male	26	1.1, 2.2, 3.2, 4.1, 4.2
TEdF1	Female	23	1.1, 2.2, 3.1, 4.2
TEdF2	Female	42	1.1, 2.1, 2.2, 3.2, 4.1, 4.2, 5.2
TEdF3	Female	31	1.1, 2.1, 2.2, 3.1

* 1.1 = The importance of using clear, accessible language; 2.1 = Signposting; 2.2 = Voice as structure; 3.1 = Maintaining concentration; 3.2 = Density of coverage; 4.1 = Mapping; 4.2 = Sequencing; 4.3 = Duplication; 5.1 = Inclusivity; 5.2 = Cohorts.

Procedure

Institutional ethical approval was secured (ETH1920-0010). Both authors met to discuss (a) their respective podcast series for the 2019/20 academic year; (b) the kind of feedback that would help improve future podcasts; and to establish (c) the most appropriate type of data collection tool to acquire feedback on our podcasts. It was agreed in advance that we would each aim to recruit feedback responses from around 5 students and around 2 teaching colleagues. We each selected two podcasts that represented the scope and focus of our learning outcome goals for the target cohort (e.g., the first author selected podcasts which, respectively, introduced the module focus and outlined assessment requirements). These sample podcasts were between 5-8 minutes long (mean length = 6.5 minutes).

Feedback was generated via free text responses to a survey data collection tool hosted on Qualtrics. In constructing our data collection tool, we drew on both our own practitioner experiences of developing podcasts and on theories concerning optimal circumstances for higher quality engagement in learning environments (e.g., managing cognitive load; Chandler & Sweller, 1991). In the final survey data collection tool, some items were more general (e.g., "Please add any other comments/observations relevant to this podcast below") and others focused on more specific characteristics of each sample podcast as a learning and teaching resource (e.g., "What did you think of the language used in the podcast?" and "What did you think of the focus/length of the podcast?"). Following data collection, we reviewed feedback and developed a feedback-based strategy

for refining our podcast approach for the subsequent academic year.

Analytic Approach

We followed a conventional content analysis approach as defined by Hsieh and Shannon (2005) which involved deriving codes directly from the textual data. The approach was inductive: Decisions on the final approach to organizing content were postponed until the data corpus had been fully understood and organized. Content analysis was performed on the free text survey responses and proceeded through a sequence of key stages. First, data extract responses relevant to the research question were collated and organized into a single document. Second, where needed, data was edited to produce a dataset with standard formatting features. Care was taken during this stage to ensure minimal loss of fidelity from the original free text responses. Third, material was read and re-read carefully to ensure clear interpretation of meaning for each extract. Fourth, initial codes were produced to capture the focus and dynamics present in each extract. Fifth, codes were organized into clusters reflecting shared factors between extracts relating to the relative ease or difficulty of consuming podcasts. All analytic activities were led by the first author and were subsequently checked by the second author leading to discussion, where needed, about the structure and focus of the emergent analytic approach. To enhance the reliability of the analysis, we arranged for an independent analysis of our coding structure to be conducted by an educator colleague in the first author's subject area. There was broad agreement between first and second author and the independent analysis in terms of the final set of themes, subthemes, and alignment between themes, subthemes, and textual data extracts. Further details about the final organizational approach for presenting the analysis are provided in the next section.

Findings

Wide-ranging factors were highlighted, giving insights into the overarching research question (i.e., "What factors improve [or limit] a practitioner-delivered podcast's effectiveness as a learning resource?"). Findings are presented under a series of five key considerations that emerged inductively from this analysis. Given the anticipated practical application of our findings, the term "considerations" here is preferred to "themes" to emphasize how findings could be rapidly drawn on to calibrate approaches to podcast production for learning and teaching environments. These considerations related

to: (1) language, (2) structure, (3) length, (4) integration with other learning materials, and (5) promoting inclusive learning environments. We note that the characteristics referred to in the illustrative data explicitly concerned stakeholder viewpoints on the attributes (e.g., length, structure) of the sample podcasts rather than to the same attributes as apparent in other or wider learning resources (e.g., considerations in lecture settings). Under each "consideration" heading, between 1-3 subthemes are presented which summarize the key relevant data from learner and teacher stakeholders.

Notably, the textual material from both learners and teachers converged on a very similar range of considerations. Similarly, there was textual material available from each stakeholder group relevant to each subtheme. Individual participant free text responses contributed to between one and seven discrete subthemes (mean = 2.6 subthemes; see right-most column in Table 1).

Free text response extracts are presented in the section below followed by participant details. Participant details appear in a standard format (e.g., LEdM2 = Learner, in Education, male, participant #2 in this category; TPyF1 = Teacher, in Psychology, female, participant #1 in this category).

Consideration 1: Language

Care taken with clear, carefully explained language in podcasts was highly valued, and relevant material is presented below.

1.1: The Importance of Using Clear, Accessible Language

Learner Views. Having clear, simple, accessible language and avoiding a formal tone were key, valued features of podcasts: "The language was clear, focused and didn't feel too formal. It's tricky to explain such topics in accessible language, which this did" (LEdM2). Also valued were efforts to consistently explain unfamiliar terms whether these were acronyms ("Podcaster says 'BPS' then 'British Psychological Society,' but abbreviations used towards the end were unclear, hindered learning of some content" [LPyF1]) or whether technical language was concerned ("any relatively complicated concepts were introduced [e.g., 'measures of central tendency'] and properly explained" [LPyF3]). However, learners were not unanimous on this issue, with some feeling that podcasts could not satisfactorily replace visual teaching materials: "at times technical detail became a bit too abstract and I wanted some words or pictures to hang on to too" (LPyF2). Finally, conscious restraint on repeating content within podcasts was valued: "good use of examples to contextualize understanding—some repetition but kept to a minimum" (LPyF6).

Teacher Views. Colleague feedback from both disciplines agreed with learners that clear, unambiguous terminology was a priority (and challenge) of producing successful podcasts for learning purposes ("frequent use of specialist terminology, but clarifies these terms partly using synonyms. Using simple terms and explaining synonyms would be important" [TEdF1]) and underscored the importance of reflecting on what counted as a specialist lexicon ("some method terms were a little under-defined and maybe too much undefined jargon—e.g., 'formative/summative assessment'—not really everyday terms" [TPyM1]). As LPyF6 attests, repetition was recognized as key to overcoming unclear language, as was reflection on disciplinary tendencies toward using jargon: "language use in education can rely on prior knowledge and ability to recognize jargon, but here terms are repeated throughout, so you could deduce meaning even if you weren't sure about specifics" (TEdF3). One piece of colleague feedback usefully suggested that a more systematic effort to identify and address potential jargon would help improve podcast clarity: "I would probably map the podcast before I begin to ensure that I am clear on different terminology relied on to explain the key terms" (TEdF2).

Consideration 2: Structure

Different aspects relating to podcast structure, and structural devices that could be effective within podcasts, were apparent in our data. Material concerning structure-related considerations in podcast development is presented below and organized under two subthemes: "signposting" and "voice as structure."

2.1: Signposting

Learner Views. Providing listeners with a strong sense of direction within podcasts was viewed as important,

with many students contributing innovative ideas about how signposting could become a more intrinsic feature of their lecturer's podcasts. Numbered points were suggested by one learner: "could use spoken numbers to order discussion—e.g., 'I am going to talk about (1) What is expected from you in this module, (2) SPSS, etc'. When listening back, the numbers could then be used to locate relevant information" (LPyM1). Another suggested using timestamps which could be cross-referenced against a text document while listening to the podcast: "could include a content overview at the beginning of each podcast and perhaps timestamps for sections (kept on separate text file) so you can quickly find something again" (LPyF4). Signposting was also valued when it was used in a podcast to help connect related learning materials: "signposting for additional resources was helpful" (LPyF2) (this mapping of materials receives more dedicated coverage in the "Sequencing" subtheme below).

Teacher Views. Colleague comments agreed with the importance of structure, though they focused on this notably less than learners: "the structure was good: chunks of language were connected coherently" (TEdF3). An interesting way in which structure was identified as an important consideration was in terms of contextualizing podcast remit within the process of introducing or explaining the podcast's purpose to the listening audience: "the podcast scope was truthfully acknowledged—e.g., the speaker mentions he 'cannot do justice to social constructivism' in the time, giving necessary focus and justifying provided content" (TEdF2).

2.2: Voice as Structure

Learner Views. Inventive use of intonation, pitch, and pacing could be powerful ways of using structural forms to deliver content and discuss issues in a digestible, appealing way for student listeners. One clear illustration was present where an educational learner drew a connection between the presence of structural devices used within podcasts and the possibilities of a more active learning response: "the tone was used to place emphasis—e.g., when talking about Vygotsky, the word 'not' in different tones emphasized importance in certain places allowed the listener to engage with what is being said more deeply, making parts more memorable" (LEdM1). Other ways in which voice modulation could be used for structural purposes in podcasts involved keeping a measured pace ("the pace and tone were calming and gave time to consider the points that had been made" [LEdF1]) and capitalizing on how pauses could be used to partition discussion of specific issues ("the podcast was very easy to understand, with the correct number of pauses moving from idea to idea" [LPyF1]).

Teacher Views. Taking advantage of subtle changes in vocal register was, similarly, recognized by colleagues as an important way of retaining the listener's interest ("voice modulation matched the talk and carried the reader through the podcast" [TEdF1]) and also as a way of drawing attention to shifts in focus or underscoring key messages over the course of the podcast ("varying the pitch and tone helped communicate changes of direction/key points/important bits" [TEdF3]). Punctuating the podcast with reiterations of the focus was another structural device appreciated by colleagues: "there were regular reminders of the topic during the podcast. The introduction and recap worked well providing an overview of podcast content" (TEdF1). One piece of colleague feedback expressed skepticism about the extent to which vocal nuance could be successfully used as an alternative to less ambiguous written form in the context of explaining conceptual terms: "the term 'schemas' is unpacked, but will all audio learners get the semi-colon implicit between schemas and your unpacking?" (TEdF2).

Consideration 3: Length

An equally important consideration when making podcasts clear and well-organized was making appropriate decisions around podcast length. Material concerning length-related aspects of optimizing podcasts is presented below under two subthemes: "maintaining concentration" and "density of coverage."

3.1: Maintaining Concentration

Learner Views. Striking a balance between engaging users with useful content without losing listener attention was valued. There were risks to retaining attention if presenting too much content to listeners ("length was good and focused on what was important without giving loads of overwhelming information" [LPyF3]) and, relatedly, risks to holding attention by covering large

numbers of topic areas in the space of a single podcast ("this introductory podcast covered a variety of topics and I found a focus hard to establish; for me the podcast length was a little long" [LPyM1]). One learner referred to the relative novelty of podcasts as a learning medium as a specific challenge involved in maintaining listeners' concentration and she urged "no longer than 10-15 for an introductory podcast. An academic podcast is a new concept for many students, so it may be difficult to gain traction at first, and folks have a short attention span" (LPyF7).

Teacher Views. Ensuring that attention was held throughout the duration of a podcast was an important length consideration for colleagues, too: "length was good, any longer might risk loss of concentration" (TEdF3). Feedback concerning the risk of lowered concentration from colleagues also pointed to devices to mitigate against lost attention from listeners ("It was useful to have the podcast length clarified at the start" [TEdF1]) and, in the same colleague's response, there was the sense that once engaged with a podcast, length concerns could potentially be quickly overcome ("even though 16 mins seemed a long time, it flew by once I started listening!" [TEdF1]).

3.2: Density of Coverage

Learner Views. Length-related considerations went beyond seeking to secure and maintain listeners' attention for the podcast duration and some material seemed to turn around whether podcast length was warranted given the focus and importance of material addressed. Among learners, longer podcasts felt validated in the context of more substantive topic areas ("the slightly longer coverage felt appropriate because of the dense topic area which required more examples and explanation of theories" [LEdM1]) and where lengthier discussion felt justified if a topic area needed greater explanation and/or acknowledgement of adjacent issues ("the podcast felt longer than other podcasts but that was helpful as it provided more context and content, it felt like a structured mini essay almost" [LEdM2]). More ambivalent commentary was apparent in some responses where podcast length mandated repeated listens and a stop-start approach: "a lot of information was given and I had to stop the podcast a few times to make notes and to listen to certain parts again" (LPyF1).

Teacher Views. Among colleagues, there was divergence in views about podcast lengths in terms of an upper-limit duration. For a Psychology colleague, appropriate podcast length was not an absolute and was conditional on the underlying teaching approach linked to the session for which the podcast had been made: "an orientating pre-lecture podcast, giving context when previewing slides, would ideally be in the 5-10 min category. However, if the purpose were more of a flipped lecture, it would have to be 15-20 mins" (TPyM1). By contrast, a colleague in Education viewed length-related upper limits as an appropriate consideration when developing podcasts as learning resources: "I would cap a podcast at around 15 minutes and prepare by thinking carefully about what key concepts I could afford to discuss within that remit" (TEdF2).

Consideration 4: Integration with Other Learning Materials

While more concrete issues about length and structure characterized some feedback, comments also orientated toward how podcasts, as distinctive audio learning resources, might work best alongside other teaching and learning materials. Participant views about how to successfully embed podcasts in the context of the broader teaching and learning program is presented via three subthemes: "mapping," "sequencing," and "duplication."

4.1: Mapping

Learner Views. There were inherent challenges in linking podcasts to other learning resources, but podcasts were also viewed as offering a unique opportunity to buffer or stagger the sequencing and appearance of traditional learning resources. For example, podcasts were viewed as one way of communicating with learners about learning expectations and the planned teaching agenda in advance of other materials being made available: "having weekly podcasts is useful for students to have an overview of the week even if the materials are uploaded late" (LPyF5). Another way in which podcasts were viewed as serving a mapping function was through underscoring learner's extant knowledge base and communicating expectations about the next phase of learning outcomes: "making it more personalized and contextualized would be good e.g., saying something about what we already know, or where in our studies you expect us to be" (LEdM2).

Optimizing Practitioner-delivered Podcasts *continued*

Teacher Views. Similarly to learner feedback, colleague feedback pointed to the inherent value of podcasts as a way to draw attention to self-directed learning activities that could help students prepare appropriately for formal teaching sessions: "I did really like the required reading focus which gave a helpful pre-lecture orientation towards alternative information streams" (TPyM1). Further care around the administrative side of podcasts in terms of their labelling and description in repositories was dealt with in other colleague feedback, which in one instance usefully suggested that "there could be some mapping with a sentence or two underneath the podcast to direct students to related podcasts for more info" (TEdF2).

4.2: Sequencing

Learner Views. Closely related to mapping podcasts alongside other teaching and learning materials was the issue of these materials appearing in a consistent, logical sequence from the learner's perspective and in a way that seemed to enhance opportunities to learn. Feedback from one learner indicated that the availability of podcasts a reasonable length of time away from formal learning sessions assisted preparation, particularly in terms of specialist terms that the learner might be due to encounter: "I like the week ahead summary and flagging upcoming assignments giving plenty of time to prepare and mentioning technical methods terms (e.g., 'discourse analysis') helps with course expectations and doing additional research if students are interested" (LPyF7). For some learners, podcasts were not always successful in terms of how they had been designed to complement other learning resources. Sequencing was again relevant here in that it was difficult for material covered in some podcasts to avoid assuming prior module engagement and understanding: "this podcast required prior learning to be understood—you couldn't dip into without prior teaching unlike shorter podcasts I've heard where anyone could understand what's being talked about" (LEdM2). Another suggestion for improving sequencing issues involved in using podcasts was to offer clearer definition of podcasts in relation to the broader podcast series—i.e., sequencing podcasts alongside other podcasts more clearly and consistently ("the end of the podcast could have been more lead into—e.g., more clarification of what is coming in the next podcast or if this was the last of its kind" [LEdM2]).

Teacher Views. Dovetailing with learner feedback, addressing the sequence of a podcast series head-on, and using this to generate awareness and enthusiasm for podcasts as a core learning resource, was raised as an important consideration among colleagues: "I liked the start where previous podcast content was reviewed—I was immediately curious and wanted to listen. Throwing in tantalizing information about the next podcast at the end had a similar effect" (TEdF1). A more active engagement strategy was suggested in other colleague feedback as a way of utilizing podcasts to optimum effect. One piece of feedback along these lines suggested inclusion of concrete pre-lecture learning activities included within podcasts designed for use as trailers for formal learning sessions: "if students are meant to listen to podcasts pre-lecture, perhaps some pre-lecture activities or reading would help familiarize them with terms to be covered in the lecture" (TPyF1). Knowing how far to go in terms of formally sequencing podcasts raised the question around whether to refer to specific time or dates of the scheduled learning timetable to listeners given that this may clash with when podcasts were actually consumed: "referring to time (e.g., tomorrow, last week) risks breaking connectedness between presenter and listener, if listened to at another time. However, connectedness could be enhanced if the podcast was listened to at the appropriate time" (TEdF2).

4.3: Duplication

Learner Views. Offering listeners podcasts where contents were unambiguously distinct from the contents of other materials delivered via companion outlets (e.g., lectures, seminars, handbooks) was understood as a significant challenge of developing successful podcasts. Study podcasts were not always viewed as successful in this respect: "it was slightly long and overlapped with lecture content in places" (LPyF4). Developing tactics to trim and customize podcasts so that material covered elsewhere did not appear (or appeared minimally) was therefore a key consideration for producing podcasts that could be understood as offering clear "added value" to the learner: "you could cut time a little by removing some key concept examples (e.g., variables, ethical considerations) as they're in the readings and the lecture itself" (LPyF7). Even where such tactics were employed, some learners saw podcasts as a potential obstacle to attending formal taught sessions in that the podcast content may risk duplicating (or be perceived by learners to duplicate) content delivered in face-to-face settings:

"students may not listen to podcasts because they feel that it covers so much of what is needed that folks won't feel like they need to come into class" (LPyF7).

Teacher Views. Colleague feedback on the danger of duplicating adjacent learning material in podcasts was mixed, though some feedback did not identify this as a risk in the podcasts on which they had been asked to provide feedback: "reassuring without overlapping lecture content" (TPyM1). However, the same colleague remained unconvinced that the podcast they had listened to was able to clearly distinguish and justify itself from other learning materials. Given this risk of duplication, they asked "might the podcast be falling between two stools: longer than necessary/ideal for a quick overview, while perhaps overlapping with video-recorded lecture content?" (TPyM1).

Consideration 5: Promoting Inclusive Learning Environments

A final selection of material concerned the importance of producing podcasts which successfully addressed the full diversity of a student group. Podcast inclusivity was referred to by participants in different ways; inclusivity concerned ensuring that the full diversity of learning styles (a term we use loosely here to refer to differences between individuals in how they approach learning rather than in a hard-defined theoretical sense) and learning approaches within the student group benefited from podcasts. However, inclusivity also concerned pitching podcast content in a way that addressed learners starting at multiple time points during the course of the academic year. Material in this section is presented under two subthemes: "inclusivity" and "cohorts."

5.1: Inclusivity

Learner Views. There was a broad consensus among learners that podcast pace (also discussed in the "voice as structure" subtheme above) was closely tied to producing a learning material that was going to be accessible and appealing to all learning styles within module cohorts. This was apparent in feedback from a personal perspective: "it helped having information re-capped or summarized and slight pauses let the new information settle before moving on. Pace worked well—I could make notes during the podcast without having to stop it" (LPyF2) and "I can gauge from the speaker where I can take notes so I can pause and listen to parts again which is useful. If I needed to listen to the podcast in entirety again, it would be ok because the pace/tone is pleasant and easy" (LEdM1). However, the justification and value of having a judicially slow pace was also recognized as important from learner's perspective of other learners' study styles: "the pace was quite slow but I can see that this will be useful for some and that the podcast was directed at the whole cohort" (LPyF6). Keeping an appropriate pace was a challenge in terms of keeping the full cohort engaged with podcast content and, for some, a measured, cohort-inclusive pace was an unambiguous obstacle to engagement: "the pace of the podcast could have been faster. I found myself drifting and thinking of other things" (LPyM1).

Teacher Views. It was notable how both colleague and learner feedback tuned into the issue of inclusive learning needs from the viewpoint of podcast production. Careful attention to pace was acknowledged as a key consideration among teachers: "in face-to-face teaching you can read the faces of those watching and respond by slowing down where necessary, which is not possible for podcasts, so slow and steady speaking is more important. I will consider speaking speed going forward" (TEdF2). While pace and delivery were important, teachers also recognized that podcast inclusivity also depended on a transparent vocabulary with time taken to explain and unpack unfamiliar terms: "vocabulary felt general and inclusive without becoming patronizing. In face-to-face classes students who are less strong academically would pick me up on all unexplained terms, but with podcasts, this could be a barrier to understanding" (TEdF2).

5.2: Cohorts

Learner Views. Using podcasts to address content in a way that was relevant to distinct and different cohorts (e.g., learners beginning studies in the Spring versus learners beginning studies in the Autumn) studying in the same sessions together was recognized as difficult and important as an issue to overcome in podcasts design: "Spring and Autumn starters were usefully distinguished so that students know why lecturers have to include materials we already covered" (LPyF5). For one learner, the scope for confusion was sufficiently high to warrant coverage in cohort-specific podcasts, particularly when it came to content that attracted anxiety (e.g., statistics): "Spring starters felt quite lost on the basics of statistics

whereas some September starters felt some repetition—these basics could usefully be covered in an optional podcast for everyone to sort of start on the same level" (LPyF3).

Teacher Views. The risk of sending confusing messages to students who had started their studies at different cohort time points was also recognized among teachers. This was most striking in feedback from one colleague who noted that "without dealing with accommodating both Autumn/Spring starters listeners might disengage. As an Autumn starter, I might switch off during discussion of means/modes etc." (TPyM1).

Discussion

Practitioner-generated podcasts may provide one way of diversifying learning materials, improving accessibility of learning environments, and ultimately helping to produce higher quality learning experiences and outcomes. As acknowledged in the introduction to this article, initiatives to modernize and diversify learning materials to improve accessibility and inclusivity within educational environments are increasingly prioritized in UK HE and internationally. Over the last two decades, practitioner-generated podcasts have provided one learning resource for enhancing the accessibility and inclusivity of learning environments. To date, there is limited evidence offering clear insights into factors which optimize how these podcasts are developed and delivered. The exploratory research reported in this article highlights key features, as identified by teacher and learner stakeholders, that characterize more and less effective podcasts. This work provides an initial evidence base of immediate practical value to practitioners for using or enhancing the use of podcasts for learning and teaching purposes.

Textual data responses suggested that more effective podcasts would use clear, accessible language; would contain clear signposting and structure; and would keep an appropriate length to maintain concentration and offer appropriate density of coverage. Effective podcasts were also identified as being well-integrated with other learning resources (e.g., carefully sequenced, avoid duplicating other resources) and as being successfully designed to be inclusive of diverse learners and of learners at different stages of study (e.g., from different cohorts).

There was considerable agreement across stakeholder groups about what factors were involved with a relatively more and less effective podcast for learning and teaching purposes. Both stakeholders agreed on the importance of using clear, accessible language with emphasis from teachers on the role of pre-planning to identify key terms for explanation (Consideration 1). Ensuring a clear structural approach to podcasts was recognized as important by both learners and teachers, with some useful emphasis from learners on the possible role of numbered points in podcasts and emphasis from teachers on the value of making explicit the potentially limited scope of what could be covered within the podcast (Consideration 2). Both learners and teachers mainly agreed that podcasts of an upper limit of around 15 minutes would be important to retain concentration. However, length was conditional on the value held in content covered and teachers indicated that being selective about which material to focus on would be important to produce a succinct, focused final product (Consideration 3). Both stakeholder groups agreed that podcasts could successfully create links between different learning resources and help facilitate study timetabling plans (Consideration 4). Teacher stakeholders voiced concerns that podcasts developed as summaries of recent learning sessions risked being misleading if listened to by learners long after they had been produced. Podcasts were identified by both stakeholder groups as valuable ways of appealing to and engaging with diverse learning styles and at differing stages of study (e.g., from different learning cohorts). Constructing podcasts that successfully addressed this potentially wide range of backgrounds and starting points was also identified by both stakeholder groups as a challenge of producing podcasts to support learning and teaching objectives (Consideration 5).

There is an emergent body of empirical work reporting explorations and interventions to address accessibility in HE learning environments. For example, a recent systematic review of 42 studies designed to evaluate the accessibility of university websites in 67 different countries flagged wide-ranging violations of standard accessibility guidelines including issues relating to compatibility, navigability, and readability (Campoverde-Molina et al., 2023). Similar empirical work has reported on accessibility linked to information resources on university library websites (Abubakar, 2020) and on poor accessibility (e.g., confusing navigation, incompatible

assistive technologies) on organizational Virtual Learning Environments (VLEs) (Alnfiai & Alhakami, 2021; Lonsdale, 2019). As HE educators, the possibilities for capitalizing on new and innovative learning and teaching technologies grow each year. However, research reported in this article contributes to the broader consensus from the extant literature in this field discussed above which collectively underscores the importance of devoting time, thought, and resources to cultivating accessibility within HE learning environments. Our study has contributed to one aspect for how accessibility can be enhanced in learning environments and has, importantly, drawn on different stakeholder perspectives to generate these insights.

Limitations and Future Research

In this study, we sought to generate a provisional evidence base for what characteristics of podcasts are perceived to optimize them as effective resources for learning. However, several limitations and implied areas for future research should be acknowledged. First, we note that the research reported in this article was exploratory and limited to a small number of individuals based at a single HE institution. One of our starting points in this article was to consider the growing emphasis on developing robust accessibility and inclusivity within HE learning environments to take account of the wide-ranging learning needs of the increasingly diverse demographics of learning cohorts of the 2020s. While the current study was not designed to explicitly focus on learners with a known disability, we note the dramatic increase in the proportion of students with a known disability. For instance, between 2010 and 2018, the proportion of students reporting a disability doubled to 16.7% of the overall student body among UK-domiciled learners (Office for Students, 2023). Future research should now consider where and how podcasts for educational purposes can make a positive impact to the learning experience for learners with different types of known disability including low vision, attention deficit hyperactivity disorder, or specific learning difficulties (e.g., dyslexia). Second, although a sample size of 16 is reasonable for an exploratory research project involving two stakeholder groups, it was relatively small and limited to viewpoints drawn from only two disciplinary areas.

Third, we should acknowledge an accessibility limitation of our own podcasts, which did not include a transcript (or captions, as these were not screencasts), so they would not have been accessible to a student who is hard of hearing or a student who does not have audio available on their device. Fourth, we note that some degree of response bias is likely in that student feedback was provided by learners who were currently taking assessment for our modules; they may have felt inclined to give more positive feedback than would otherwise have been the case. Fifth, building on the current study focus on the intrinsic optimal properties of podcasts, future research might also address how these podcasts can be most successfully deployed within learning environments to maximize their positive impact on learning. For example, podcasts may successfully address a "flipped learning" agenda by acting as a resource that learners are required to engage with prior to a formal learning session so that class time itself becomes dedicated to learning activities, interaction, and other types of active learning enacted in synchronous time (Mazur, 2009). Arguably, this is a strong example of where optimizing the approach and design qualities of podcasts counts given the weight in a flipped learning context on learner understanding and engagement with a pre-session resource.

Sixth, and finally, despite developing our data collection tool in line with prior experience and relevant pedagogic theory, it is possible that the tool "primed" participants to provide feedback on particular aspects of podcasts (e.g., length, structure). We also note that the free text responses, while providing rapid and straightforward insights into teacher and learner viewpoints, could not be probed further and it is recommended that semi-structured interview or focus group research is conducted to develop understanding of what factors underlie relatively more and less successful podcasts for teaching and learning purposes.

Practical Applications

Our research contributes to an evidence-base supporting understanding of key features that characterize more and less effective podcasts. However, our research was also conducted to produce findings that could be of immediate practical value to practitioners planning to develop (or seeking to finetune the preparation and delivery of) podcasts for their learning and teaching activities. Evidence drawn from our exploratory research is summarised in Table 2, which

Optimizing Practitioner-delivered Podcasts *continued*

Table 2

Mapping Study Findings Against Implications for Producing Podcasts

Consideration/Sub-Theme	Implication of study evidence for podcast/podcast series…		
	… conceptual development and planning	**… recording and delivery**	**… postproduction, and role of supplementary material**
Consideration 1: Language			
The importance of using clear, accessible language	Identify in advance key terms and acronyms to clarify/define.	Ensure consistent/slow pace.	—
Consideration 2: Structure			
Signposting	Plan discrete podcast sections (e.g., using numbered points); acknowledge parameters of podcast focus.	Use intonation to emphasize key points and to begin/conclude new podcast sections.	Include podcast-linked time stamps.
Voice as structure	Pilot delivery style to identify preferred approach to using your practitioner voice.	Consider use of voice/intonation (e.g., for emphasis and to connect ideas).	
Consideration 3: Length			
Maintaining concentration	Pre-plan parameters of what will be covered to produce a focused, pithy podcast.	Explicitly state near the beginning of the recording how long the podcast will be.	—
Density of coverage			
Consideration 4: Integration with Other Learning Materials			
Mapping	Consider how podcast can be used to flag/remind about other learning resources.	—	Embed hyperlinks to relevant learning resources within podcast description and/or near time stamps.
Sequencing	Where possible, identify appropriate position of individual podcasts in learning materials (position reflected in postproduction note).	Include note that positions podcasts within podcast series (e.g., "this is podcast five of a broader series of seven podcasts").	Add descriptive note stating materials to engage with immediately pre- and post-listening to each podcast.
Duplication	Use reflection on how podcast could duplicate other learning materials to craft its own identity as a novel learning resource.	—	—
Consideration 5: Promoting Inclusive Learning Environments			
Inclusivity	—	Include pauses and recaps during recording.	Including a podcast transcript as a supplementary resource.
Cohorts	Plan part of podcast content to address how issues work in discrete ways for different cohorts.	—	—

presents suggested approaches for practitioner-delivered podcasts spanning three distinct phases: (1) conceptual development and planning, (2) recording and delivery, and (3) a stage relating to postproduction and developing material to supplement podcasts.

Conclusion

Our starting point for this article acknowledged the importance of enhancing accessibility and inclusivity within contemporary HE learning environments and the emergent role of podcasts (among other digital resources) in catering more successfully to the learning needs of increasingly diverse learner cohorts. As practitioners, developing non-traditional resources, like podcasts, helps to diversify and enhance accessibility in our learning environments. We hope that evidence and practical guidance provided in this article can optimize existing podcast approaches among practitioners experienced in using podcasts and inspire and guide practitioners new to using podcasts to start using these in their learning and teaching environments.

Optimizing Practitioner-delivered Podcasts *continued*

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