

Co-constructing teaching and learning in higher education: a literature review of practices and implications

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Abstract

The purpose of this literature review is to examine the assumptions and practices taking place in co-constructed learning spaces within higher education research literature, specifically for undergraduate students. This paper provides an overview of how co-constructed methods take shape in the university classroom and how those methods benefit student learning. A literature search was conducted via education-focused databases using search terms such as 'higher education', 'co-constructed learning', and 'sociocultural'. Only primary, empirical articles published after 2007 were included for review, with one exception from 2002. Implications for student learning are discussed within four core thematic outcomes (skill development, engagement, meaning-making, having purpose) and two activators (learning through relationships, creating a safe space). Implications for teachers include a discussion of teaching methods, classroom activities, and the role of teachers. Rooted in theories of constructivist, sociocultural, and third space learning, this review of the literature provides rationale for exploring alternatives to traditional pedagogical methods, highlights barriers, facilitators, and potential downfalls of co-constructed learning spaces, and discusses implications for student learning and for teachers.

Keywords: higher education; co-constructed learning; sociocultural learning theory.

Introduction

Defining traditional pedagogical methods

The traditional model for teaching and learning in education places the instructor at the literal and metaphorical head of the classroom. Traditional, in this context, refers to the lecture-based, transmissional learning environment developed for university settings during the initial conception of higher education. Although pedagogy has evolved, teachers still hold power (Cook-Sather, 2014). They are seen as the experts on a given subject matter and work to bestow their knowledge upon novice students, rooted in historical cognitive-and behavioral approaches to learning (Wickman, 2004; Kolb and Kolb, 2005; Fried, 2007; Cook-Sather, 2014; de Royston et al., 2020). At its core, this paper assumes a counterapproach to traditional historical pedagogical methods in higher education.

Offering an alternative

Given the established precedent of traditional pedagogy and teacher-as-expert classroom practices in university settings, a co-constructed learning approach, incorporating sociocultural learning theories, offers an alternative method of creating student engagement and deeper learning. As a core tenant of learning development, challenging established norms in teaching helps pave the way to innovative approaches to learning. Research has suggested that a collaborative, participatory approach to learning (i.e., a constructivist approach) results in more effective and meaningful learning for students. Most of this research has been based in compulsory education settings and has been sporadically explored in a university setting over the past two decades, often with findings of similar, positive results of meaningful learning (Fried, 2007; Mascolo, 2009; Sidelinger and Booth-Butterfield, 2010; Faraon et al., 2020). Rather than reinforcing the teacher-as-expert model, a constructivist approach to teaching and learning works to remove the hierarchy between teacher and student and values the contributions of both. In spaces where a constructivist approach is used, student perspectives and lived experiences are both acknowledged and valued, and teachers serve as facilitators in soliciting and encouraging those perspectives (Morrone and Tarr, 2005; Fried, 2007; Wang, 2007; Roberts, 2016; Ha and Pepin, 2017;

Faraon et al., 2020). Educators and researchers within the field of learning development are working hard to challenge traditional pedagogical structures, encourage more participatory learning, and decolonise higher education (e.g. Roberts, 2016; Bohlmann, 2022). Taking a social constructivist, co-constructed approach to teaching and learning in higher education can be part of that larger movement that encourages innovative practices to serve the ever-changing needs of students.

The purpose of this paper is to examine the assumptions and practices taking place in co-constructed learning spaces within higher education, specifically for undergraduate students, an underrepresented population in the co-constructed learning literature. To meet this purpose, I will provide a brief overview of the theoretical framework of this review. After a summary of my methods, I will describe the juxtaposition between traditional and co-constructed pedagogical methods and the rationale for the consideration of constructivist and sociocultural approaches in the university classroom. These approaches will be discussed in connection to the core competencies of the Council for the Advancement of Standards in Higher Education (CAS), which is a consortium of professional associations in the United States whose mission is to assess and develop a set of standards to support a quality learning experience for students. Next, I will review the implications for student learning as thematic categories based in empirical literature and discuss additional implications for teachers. This will be followed by an examination of the barriers, facilitators, and potential downfalls of co-constructed learning spaces and conclude with limitations and suggestions for future research.

Theoretical framework

The research questions addressed in this paper focus on the organic evolution of co-constructed learning and how it emerges (or is stunted) in university classrooms. Because of this author's iterative, grounded-theoretical approach to understanding theories and practices, student development theories were excluded from the theoretical framework. Rather than imposing a framework with predetermined aims and goals such as academic success,

retention and positive transitions (Long, 2012), I want to understand how co-constructed learning occurs without the systemic or socio-political implications that tend to exist in higher education. I recognise, however, that I cannot remove those systemic expectations and that students and instructors will always have to operate within some expectation of success or achievement. My goal is to attempt to view learning from what teachers and students themselves, as people with lived experiences, bring into the classroom space, rather than by what the institution believes is best for them. This is the fundamental distinction between the theoretical approaches I chose to use and exclude; for the purposes of this paper, I want to honour and value the social and cultural contributions of the individual over the system. Therefore, the theoretical framework supporting this review is composed of three core learning theories: constructivist learning theory, sociocultural learning theory with Vygotsky's (1978) zone of proximal development (ZPD), and cultural third space learning theory.

Epistemology of constructivism

Constructivism is rooted in the work of developmental theorists Piaget, Dewey, Bruner, and Vygotsky, among others. At its core, constructivism offers an alternative to positivist epistemology (Fosnot and Perry, 1996; Prince and Felder, 2006). The historical epistemological model in higher education assumes an absolute truth, centered on objectivity and the dissemination and receipt of established knowledge and facts. A constructivist approach challenges the notion of absolute truth and posits that knowledge is created (i.e. constructed) within an individual through their interactions with the environment (Duffy and Cunningham, 1996; Fosnot and Perry, 1996; Prince and Felder, 2006; Mascolo, 2009). The learning process is complex and non-linear, and it requires the influence of ecological resources, knowledge from and interactions with others, and individual actions within the environment itself (Prince and Felder, 2006; Mascolo, 2009; Damşa, Nerland, and Andreadakis, 2019).

That is not to say that social constructivism exists purely separately from the positivist perspective of realism. Elder-Vass (2012) discusses how social constructivism and critical realism can and should exist together as a way to recognise individuals as acting within a

social context that is shaped and reshaped by discourse, language, and social norms. Although social constructivists believe everything is socially constructed, there is still an element of what is believed to be real or true that exists within social norms (Elder-Vass, 2012), an argument that translates to the systemic influences of school as a formal place of learning. Social norms are still imposed upon students and teachers, and although a co-constructed approach encourages autonomy and agency from individuals, that autonomy emerges within the limitations of school-related social norms and systemic expectations, which can be a struggle for teachers striving for a co-constructed classroom environment (Grimmett, 1997; Elder-Vass, 2012).

Co-constructed learning

Constructivism is centred on the idea that 'individuals *construct* their understanding of the world as a product of their *actions* on the world' (Mascolo, 2009, p.4, emphasis in original). In the formal classroom environment, a constructivist approach places emphasis on habit-forming and making connections between subject matter and in-classroom phenomenon rather than simply the reception of new content, allowing students to 'construct their own versions of reality rather than simply absorbing versions presented by their teachers' (Prince and Felder, 2006, p.123). Mascolo (2009) wrote: 'the conduit metaphor of teaching portrays the learning process as one of *accumulating* knowledge. In contrast, the constructivist approach maintains that learning involves the transformation of existing knowledge into increasingly higher-order forms' (p. 6, emphasis in original).

Co-constructed learning, rooted in constructivist theory, shifts the focus away from fixed outcomes and expectations (e.g. exam scores, predefined curriculum) and toward an understanding of how learning spaces are shaped (i.e. constructed) in a way that capitalises on available ecological resources, emphasises meaning-making, and promotes an environment most conducive to learning (Wickman, 2004; Kolb and Kolb, 2005; Prince and Felder, 2006; Mascolo, 2009; Damşa, Nerland, and Andreadakis, 2019).

Sociocultural learning theory

Building on the foundational concepts of constructivism, with the development of knowledge as a constructed, individualised process, sociocultural theory elevates constructivist learning to include the social and cultural context in which learning takes place. The work of Lev Vygotsky (1978) serves as the seminal work upon which further sociocultural theories were developed. These theories account for numerous components within the sociocultural umbrella, including Vygotsky's zone of proximal development (ZPD), scaffolding, social and relational learning, mediational tools, and communities of practice. ZPD refers to the space between the individual's cognition and the teacher's influence. Vygotsky (1978) defines ZPD as 'the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers' (p. 38). The process of closing that gap is what sociocultural theories call scaffolding (John-Steiner and Mahn, 1996; Nash-Ditzel and Brown, 2012; Faraon et al., 2020; Damşa and Muukkonen, 2020). The concept of a zone of proximal development and scaffolded learning are essential to understanding a co-constructed learning environment.

Overall, when social and cultural (sociocultural) influences are acknowledged within the formal environment of education, it becomes more evident that mental functioning (learning) is situated within context and shaped by external factors (John-Steiner and Mahn, 1996; Wickman and Östman, 2002; Wang, 2007; Gutiérrez, 2008; Faraon et al., 2020). Learning becomes more than just the development of internal cognitive structures. Rather, learning is socially constructed (Wertsch and Tulviste, 1992; John-Steiner and Mahn, 1996; Wickman and Östman, 2002; Wickman, 2004).

Cultural third space learning theory

With the co-constructed classroom as a formal learning space and a community of practice for meaning-making, cultural third space theory (also referred to as hybridity theory) proposes additional spaces for knowledge to exist. Gutiérrez (2008) argued that the cultural third space meets multiple criteria of Vygotsky's ZPD, with the third space serving as an in-between for

two other distinct spaces of learning. The *First Space* refers to personal knowledge, lived experiences, and social practices of an individual, including physical, situational, and emotional experiences. The *Second Space* is where elements of the First Space are conceptualised and made sense of much like the dynamic of a classroom. The *Third Space* is the in-between space where individuals draw from both the physical, mental, and cultural planes to explore other options, different perspectives, and new ideas (Johnston, 2009). The cultural knowledge and lived experiences that students bring into the classroom (if given the opportunity to do so) are what theorists refer to as funds of knowledge (Moll et al., 1992; Gutiérrez, Baquedano-López and Tejada, 1999; Moje et al., 2004; Cook, 2005). Funds of knowledge are the repositories of experiences, knowledge, and practices students bring with them into the classroom. These funds include knowledge that is learned and developed outside the formal educational space and instead from social encounters with peers, experiences in the larger community, exposure to the media, and life at home (Moll et al., 1992; Gutiérrez, Baquedano-López and Tejada, 1999; Moje et al., 2004; Cook, 2005).

In a classroom setting, the mutual relationships and interactions between students, teachers, peers, activities, and content knowledge enable third space learning via the ZPD (Jørgensen et al., 2020). Cultural third space learning strengthens the role of the student within the classroom setting by honouring their own levels of expertise, including cultural histories and lived experiences (Johnston, 2009; Jørgensen et al., 2020). Based on these theories, which help establish a foundation for a deeper discussion of co-constructed learning, I will now discuss the methods used to gather literature for this review.

Methods

A literature search was conducted via Google Scholar, University of Rochester Campus Libraries, and education-focused databases (for example, JSTOR, ERIC, and EBSCO) using search terms such as 'higher education', 'sociocultural', 'third space', and 'co-constructed learning'. Because different articles discuss higher education in different ways and interchange terms like 'higher education' with 'university' or 'college', the same searches for

'sociocultural', 'third space', and 'co-constructed learning' were repeated with each of those variations. Sources cited within the relevant empirical literature were reviewed for additional context and seminal writings. A combination of theoretical and anecdotal articles and chapters, seminal theory pieces, and empirical examples of co-constructed learning in the university classroom were included in this review, with the empirical articles serving as the core content for discussions of implications. The intent was to provide sufficient context from empirical examples to explore how these theories emerge in practice.

To be included, empirical studies must have been conducted in an undergraduate university setting and utilised a constructivist theoretical framework. Because various countries may offer degree programmes on different timelines (3-year or 4-year degrees), I did not differentiate the type of degree or degree-bearing institution in my inclusion criteria. To keep this review relevant to the past 15 years, only primary, original research articles published after 2007 were included, with one exception from 2002. For articles providing theoretical context, no limitations were placed on year of publication. All empirical sources selected for this review are based in constructivist approaches to teaching and learning in a university setting, though not all of them emphasise sociological approaches, ZPD, and/or third spaces.

In total, 17 strictly empirical studies were selected for review, with many other articles serving as supporting context. This number refers to sources that were the primary product of a research study and not those who refer back to past research or generally reference a study to support their claims (although those were still included in the review but not counted as primary empirical examples). In order to capture a moderate size sample of sources, I did not limit my exploration to a specific field of study. Of the 17 empirical studies examined, ten were conducted in a liberal arts setting (education, communications, and language courses), six were based in a STEM environment (biology lab, and computer coding course), and one was centered in healthcare (nursing). Studies were based in multiple regions, including Europe, Canada, Australia, England, and the United States, and were from both public and private universities.

After collecting examples from the literature, a process of systematic coding was used to identify themes across sources. More specifically, the qualitative coding software Dedoose was used to organise and analyse each article. First, each article was assigned demographic codes to identify the type of article (empirical or contextual), student population (first-year, upper-class only, undergraduate unspecified), country of origin, and type of institution (public, private). Then, each article was reviewed and coded within a set of thematic codes (see Table 1). These thematic codes were created using an iterative procedure, starting out generally and evolving into more specific codes and subcodes as the coding process progressed.

Table 1. Thematic codes and definitions.

Thematic Code	Definition
'barriers'	Phenomena that prevent co-constructed learning
'facilitators'	Phenomena that encourage co-constructed learning
'cautions'	Potential downfalls of co-constructed learning
'context'	Theoretical or contextual evidence to support co-constructed approaches
'engagement'	Ways in which co-constructed learning influences student engagement in subject matter, class participation, and other forms of engagement
'having purpose'	Ways in which co-constructed learning contributes to students' feeling of purpose
'making meaning'	Ways in which co-constructed learning contributes to meaning-making for students
'skill development'	Ways in which co-constructed learning contributes to skill building
'safe spaces'	Ways in which co-constructed learning relies on the formation of safe spaces
'learning through relationships'	Ways in which co-constructed learning relies on relationship formation
'implications for teachers'	Insight from authors related to teaching practices

'general implications'	General key insights from authors
'activities'	Specific, tangible materials or activities used in the classroom
'role of teachers'	Ways in which the behaviours, assumptions, and core practices of teachers influence co-constructed learning
'teacher relationships'	Ways in which the relationship between teacher and student influences co-constructed learning
'quotes'	Eloquent words or definitions from authors, to be incorporated into the review

Results

Benefits and outcomes for student learning

The literature suggests that there are a variety of benefits to implementing co-constructed/constructivist-based teaching and learning techniques in the university classroom, with additional benefits emerging from the inclusion of third space and sociocultural approaches. In exploring implications for student learning from co-constructed practices, four beneficial outcomes (skill development, engagement, meaning-making, and having purpose) and two core activators (learning through relationships, and creation of safe spaces) emerged. For this discussion, the outcomes identified rest on a fundamental assumption that skill development, engagement in learning, meaning-making, and having a sense of purpose are inherently good things. In addition, I am defining *activators* as elements that enable and promote the development and interconnectedness of the identified beneficial outcomes. Activators differ from educational interventions and pedagogical structures in that they are not formal or scripted; rather, they exist organically as social and emotional phenomena in-between the formal learning outcomes of a classroom environment. Although presented in distinct categories for the sake of discussion, none of these concepts exist in isolation.

Outcome: skill development

Studies of co-constructed learning practices in the university classroom setting support the philosophical shift of learning away from an input-output model that values what is right or factual, and toward a process of meaning-making, habit forming, and critical thinking. These processes allow for multifaceted skill development in both hard skills such as the use of technology, laboratory skills, and demonstration of content mastery (Wickman and Östman, 2002; Wickman, 2004; Stefaniak and Tracey, 2015; Towers and Loynes, 2018; Damşa, Nerland and Andreadakis, 2019; Damşa and Muukkonen, 2020), and soft skills such as adaptability, flexibility, communication, interpersonal relationships, self-awareness, and self-confidence (Bovill, 2013; Cook-Sather, 2014; Stefaniak and Tracey, 2015; Towers and Loynes, 2018; Jørgensen et al., 2020).

For instance, Damşa, Nerland and Andreadakis (2019) found that the students' path to learning was organic, non-linear, and transformative. The way in which the learning spaces emerged was dependent upon the interactions between group members and relationships with each other and with the educational environment (including the classroom and lab space, technological resources, and curriculum). The authors concluded that co-constructing learning promotes flexibility and adaptability, both of which are pathways to the student development outcomes of *Knowledge acquisition, construction, integration and application* and *Cognitive complexity* provided by the Council for the Advancement of Standards in Higher Education (CAS) (CAS, 2015).

A study from Cook-Sather (2014) exploring student and teacher experiences in a formalised student-staff curriculum development programme designed to explore pedagogical practices across disciplines, identified additional skills derived from student involvement in the co-constructed programme. These skills included stronger communication skills, increased sense of confidence in their abilities, a deeper sense of self-awareness, and increased comfort with asking questions and advocating for what they need. Self-awareness, or *Intrapersonal development*, is another CAS core domain of learning in higher education (CAS, 2015).

The above studies from Cook-Sather (2014) and Damşa, Nerland and Andreadakis (2019) offer examples of skill development that can emerge in co-constructed learning spaces. When co-constructed practices are utilised, university students are provided a foundation for the development of a variety of hard skills and soft skills, including but not limited to social skills, deeper self-awareness and reflection, improved attention, increased self-confidence, adaptability and flexibility, giving and receiving feedback, and general communication skills (Wickman and Östman, 2002; Wickman, 2004; Cook-Sather, 2014; Stefaniak and Tracey, 2015; Damşa, Nerland and Andreadakis, 2019).

Outcome: engagement

When learning is co-constructed, it is inherently engaging. Burress and Peters (2015) write that ‘the very act of co-constructing new knowledge implies engagement, as working jointly to make meaning is in itself a form of engagement’ (p. 12). Examples from the literature show how co-constructed learning can enhance student learning processes and skill development, and that co-constructed learning can increase student engagement in the classroom. Engagement exists in many forms, including emotional, cognitive, conceptual, physical or behavioural, so for the purposes of this discussion, I will focus on engagement as it relates to behavioural encounters with course materials and class participation as well as the mental engagement of self-reflection.

Active classroom participation can take shape in a variety of ways, such as students exhibiting their agency, sharing their ideas in class discussions and curriculum creation, and building connections with peers and the instructor (Johnston, 2009; Sidelinger and Booth-Butterfield, 2010; Cook-Sather, 2014; Mott and Lohr, 2015). Students become more engaged in course materials and content when they have a greater understanding of the relevance of the material, both to their personal lives and education/career (Stefaniak and Tracey, 2015). The process of co-constructing learning inherently places students inside the development of their own learning processes, allowing for them to make connections between academic content and their own personal/professional development. For instance, Nash-Ditzel and Brown (2012) found that when students were allowed to have input and agency in their class

writing assignment, students created more thoughtful written work with stronger critical opinions and thought-provoking questions. Co-constructed learning is, by nature, active learning, and allowing students to influence the shaping of the curriculum and collaborate in the classroom promotes an increased level of buy-in, engagement, and productive, meaningful learning (Nash-Ditzel and Brown, 2012; Mott and Lohr, 2015).

Beyond engagement in the course content, co-constructed learning can also encourage students to become engaged in the process of self-growth and self-awareness, both of which connect to the CAS core domain of *Intrapersonal Development* (CAS, 2015). When classroom learning is co-constructed, it can promote self-directed learning and personal reflection and allow students to construct knowledge that is of value to them. It gives students a role in their educational development, rather than having knowledge of assumed value bestowed upon them by an expert with a singular vision (Mott and Lohr, 2015; Towers and Loynes, 2018; Sisson et al., 2021). Engaging in self-reflection as a practice allows students to ‘...deepen their own self-awareness and their attention to others’ experiences and perspectives’ (Cook-Sather, 2014, p. 38). Many teaching methods associated with co-constructed learning incorporate elements of reflection, often for both teachers and students. For example, Towers and Loynes (2018) concluded that students were able to develop a deeper, more personal understanding of the ethical implications of their work when experiential learning allowed them to develop a keen sense of connection and care with their academic learning and applied work. The authors attributed these stronger levels of connection as the result of their students learning the content alongside leaders and experts in the field while in the actual field setting (co-constructed learning, collaborative learning, and situated learning) and making connections back to their own professional development. The shift in the curriculum from teacher-centred to learner-centred combined with an experiential approach resulted in a learning process that was more meaningful and purposeful for students, both in content knowledge and in personal growth (Towers and Loynes, 2018).

Outcome: meaning-making

Many of the components discussed in the previous section on engagement apply to the concept of meaning-making as an implication of co-constructed learning. It is one thing to understand a concept and another to find meaning in it (Wang, 2007). Meaning-making can emerge in the form of building content knowledge, making meaningful connections to personal life and career development, and the validation of lived experiences (Wickman and Östman, 2002; Wickman, 2004; Ha and Pepin, 2017; Damşa, Nerland and Andreadakis, 2019; Pedrosa-de-Jesus, Guerra and Watts, 2019).

In Pedrosa-de-Jesus, Guerra and Watts's (2019) exploration of pedagogical methods taking places in university classrooms, they discovered that the use of instructor and peer feedback, as part of a co-constructed learning environment, allowed students to make deeper connections to the concepts of the class and enhance their critical thinking skills. Similarly, Stefaniak and Tracey (2015) posited that it was the instructors' effort to frame the course in ways relevant to both students' education and career that made for successful engagement in the content since 'learners are more apt to be motivated to learn the content if they can find significance and relevance to what they are learning' (p. 96). In this sense, significance and relevance enhances conceptual understanding of a topic, a level of learning that extends beyond physical, tactile engagement with course materials and activities.

Ha and Pepin (2017) found that spaces with collaboration, dialogue, and opportunities for reflection enhanced the co-constructed process and engaged students in more meaningful learning. Wickman and Östman (2002) and Wickman (2004) also offer examples of meaning-making when identifying language as an important mediational tool. When language was paired with collaborative and participatory activities, it emerged as a core mechanism for meaning-making. Furthermore, when the students encountered gaps in their knowledge, those gaps were filled by connections with peers and/or lab instructors, conceptual connections with past learning (such as lecture notes and textbooks), personal life experiences, and the actual materials in the lab space including chemical compounds and insects (Wickman and Östman, 2002; Wickman, 2004). Within that deeper learning was enhanced practical skill building, part of the CAS core domain of *Practical Competence* (CAS,

2015). In these examples, meaning-making emerged because of participatory, active, collaborative learning with peers, teachers, and mediational tools.

Outcome: having purpose

Numerous researchers have found that a sense of purpose can develop when students see connections to their lives outside of school, to their career goals, and to skill development. Having a sense of the purpose of their learning facilitates students' ability to embrace their sense of agency and to feel valued in the classroom space (Grimmett, 1997; Kolb and Kolb, 2005; Fried, 2007; Barton and Tan, 2009; Nash-Ditzel and Brown, 2012; Cook-Sather, 2014; Stefaniak and Tracey, 2015; Ha and Pepin, 2017; Cook-Sather, 2018). In a commentary on rethinking traditional pedagogies, Fried (2007) summarises how co-constructed learning can allow students an opportunity to not only construct knowledge and meaning but to construct their sense of self, formulate their personal beliefs, and identify their individual purpose within society. When students can identify the purpose and value of their learning, they are able to better engage and invest in their education. Co-constructing teaching and learning is a mechanism with which to encourage students to uncover that purpose and recognise reasons why learning matters, and to do so in ways that are important to the students.

Activator: learning through relationships

The four outcomes of co-constructed student learning described in the results section (skill development, engagement, meaning-making, and having purpose) cannot exist without what I will call *activators* that facilitate learning in co-constructed educational environments. The literature revealed two major themes of these activators: relationships and safe spaces. For students to develop skills, become engaged in their learning, make meaning, and identify purpose within a co-constructed environment, meaningful relationships, interactions, and connections must exist, all of which are core tenets of constructivist, sociocultural, and third space learning theories.

For the purposes of this paper as an activator in co-constructed learning spaces, *relationships* are multifaceted and include both interpersonal relationships (see Jørgensen et al., 2020) and mediated (relational) knowledge between students and educational tools (see epistemological objects in Damşa and Muukkonen, 2020). In alignment with the zone of proximal development, numerous studies demonstrate how these relationships can exist between students and teachers, between students and other students, between students and learning tools, and/or between students and physical or mental spaces (Wickman and Östman, 2002; Wickman, 2004; Sidelinger and Booth-Butterfield, 2010; Nash-Ditzel and Brown, 2012; Cook-Sather, 2014; Cook-Sather, 2018; Jørgensen et al., 2020; Sisson et al., 2021).

Activator: creating a safe space

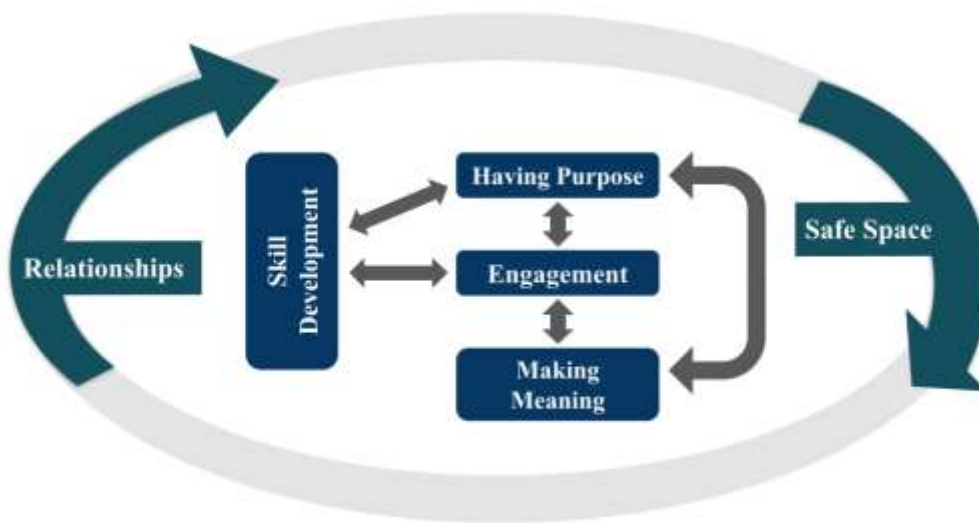
For learning to take place through relationships, it interacts with the activator of *creating a safe space*. Safe spaces allow students to express their ideas more freely and allow multiple voices to be heard, especially those typically marginalised and oppressed (Barton and Tan, 2009). To foster meaningful connections, students need to feel mentally and emotionally safe, respected, and comfortable in the space (Barton and Tan, 2009; Kolb and Kolb, 2005). Kolb and Kolb (2005) argue ‘when psychologically safe conditions are present... [a foundation for] ... effective learning’ is created (p. 208). Similarly, Burress and Peters (2015) write that ‘knowledge...was jointly constructed as they dialogued, taught, and learned with one another in the comfortable and safe environment that they had developed together’ (p. 11). The deeper knowledge students were able to develop, beyond regurgitation of fact and memorisation, was in part due to the safe space that had already been established in the classroom, sustained by using dialogue and third space meaning-making strategies.

To create safe spaces, a variety of tools and strategies exist to help develop and sustain that psychologically safe space. These strategies include small group discussions, intentional dialogues, storytelling, active listening on the part of the teacher and peers, removal of hierarchy and power dynamics, and openness to giving and receiving feedback (Kolb and Kolb, 2005; Sidelinger and Booth-Butterfield, 2010; Burress and Peters, 2015; Ha and Pepin, 2017; Cook-Sather, 2018).

Relationships between outcomes and activators

None of the major thematic outcomes (skill development, engagement, meaning-making, having purpose) or activators (learning through relationships, creation of safe spaces) exist in isolation from each other. Based on the findings of this review, student skill development is reliant on having a sense of purpose and being engaged in the content. Engagement is facilitated by having a sense of purpose and making meaning out of a task. Being engaged in learning promotes and sustains its purpose and further develops meaning-making, yet in order to make sense of that meaning, there must be an inherent purpose. None of these elements can be nurtured or explored without the existence of relationships (both to educational tools and to others) or a safe space. I created a conceptual framework to better understand how the elements work together. The activators continuously circle around the four themes to keep them supported and active. See Figure 1 for a visual representation of these themes and activators as well as the relationships between them.

Figure 1. Outcomes and activators of co-constructed learning.



Discussion

Implications for teachers

As demonstrated by the literature, numerous implications exist for the roles co-constructed approaches play in student learning processes. The studies reviewed for this paper demonstrated implications for teachers as well as for students. Recognising that it is impossible to separate teaching from learning, the following section aims to focus on the implications for teachers, while recognising that implications for students directly connect to implications for teachers and vice versa.

Teaching methods

The methods associated with constructivist approaches to learning emphasise learner-centred teaching methods, both collaborative and individual, such as inquiry learning, problem-based learning, resource-based learning, project-based learning with practical application, collaborative learning, and case-based learning (Prince and Felder, 2006; Wang, 2007; Mascolo, 2009; Stefaniak and Tracey, 2015). All these methods allow students to explore the content themselves rather than have content solely provided to them by an expert. By structuring the classroom in constructivist methods, teachers allow students to engage in more meaningful learning.

Classroom instructors hoping to tap into these deeper influences must work to frame their activities and classroom structure in an intentional and specific way to allow sociocultural and third space elements room to emerge and thrive. Refer to studies by Wickman and Östman (2002), Towers and Loynes's (2018), and Sisson et al. (2021) for more details and examples of teaching methodologies, pedagogies, and structures conducive to deeper learning rooted in cultural and personal lived experiences in undergraduate university settings.

Classroom activities

Individual agency contributes to feelings of belonging, engagement, and a sense of purpose. To promote student agency, some authors encouraged the elimination of predetermined lesson planning and rigid class agendas to allow for students to select topics of interests and provide ideas/feedback for course activities (Damşa, Nerland and Andreadakis, 2019; Sisson et al., 2021). This flexibility allows for the inclusion of content that students find relevant, thus promoting engagement and investment in their education. Utilising topics from popular culture and current events, the use of modern technologies, and incorporating variations in forms of communication and engagement (such as using the internet to facilitate discussion) are some of the ways in which teachers co-construct learning with their students while also tapping into the third space (Kolb and Kolb, 2005; Nash-Ditzel and Brown, 2012; Jørgensen et al., 2020). Giving students a voice in curriculum development and/or the creation of class activities is a way to provide a stronger sense of purpose in their education (Kolb and Kolb, 2005; Fried, 2007; Nash-Ditzel and Brown, 2012; Kessler, 2013).

Other examples of co-constructed learning classroom activities in the literature include: storytelling and dialogue (meaning the process of listening, commenting, and reflecting beyond a back-and-forth discussion) (Kessler, 2013; Kolb and Kolb, 2005); small group work (Kolb and Kolb, 2005; Wang, 2007; Sidelinger and Booth-Butterfield, 2010; Stefaniak and Tracey, 2015; Damşa and Muukkonen, 2020); briefing and debriefing with the instructor (Pedrosa-de-Jesus, Guerra and Watts, 2019; Stefaniak and Tracey, 2015; Towers and Loynes, 2018); reflective exercises, both verbal and written (Stefaniak and Tracey, 2015; Towers and Loynes, 2018); and giving and receiving feedback from peers and instructors (Pedrosa-de-Jesus, Guerra and Watts, 2019). Employing a variety of activities that tap into different learning styles, such as written tasks, spoken word, artistic assignments, kinesthetic methods, group work, and individual work, can help meet a wide range of student needs (Fried, 2007). It is important to note that all these teaching methods and course activities to create a co-constructed classroom require action and influence on the part of both the student and the teacher.

Role of the teacher

Across the literature reviewed in this paper, authors described teachers in a variety of ways, such as facilitator, coach, guide, co-learner, and scaffolder. To challenge the traditional pedagogy of teacher-as-expert, teachers' interactions within the classroom rely heavily on honoring student experience, empowering student agency, listening openly and actively, and promoting dialogue (Kolb and Kolb, 2005; Wang, 2007; Sisson et al., 2021). Reducing or removing the power differential in the classroom is a crucial aspect in giving space for student voice and agency. Teachers work to approach their students more as colleagues or partners in the learning process, rather than subordinates (Wang, 2007; Johnston, 2009; Bovill, 2013; Cook-Sather, 2014; Insua, Lantz and Armstrong, 2018). This is not to say that teachers no longer carry content expertise. In line with Vygotsky's ZPD, it is essential for teachers to utilise their experience, skills, and knowledge as a mechanism for furthering student development. Duffy and Cunningham (1996) captured this distinction well:

It is not so much that the teacher is seen as less important, rather the role of the teacher changes so that the focus is on aiding or providing the scaffolding for the learners rather than telling the learner. We fully appreciate this goal of decentering the teacher as the fount of knowledge (p. 16).

A co-constructed classroom allows for the teacher to still serve in that scaffolder role without neglecting the value of the student's role (Wickman, 2004; Morrone and Tarr, 2005; Nash-Ditzel and Brown, 2012; Cook-Sather, 2014; Faraon et al., 2020; Jørgensen et al., 2020; Roberts, 2016). The power dynamic is altered in a way that no longer centres a teacher's expertise as the governing authority of student learning but as an escort, supporting students along the way in their own process of creating and constructing knowledge.

The teaching methods, pedagogical approaches, and classroom activities discussed previously, such as creating flexible lessons plans, capitalising on dialogue and group work, using student input in curriculum design, helping students understand the relevance of the content, making connections to real life, and providing frequent feedback, are a few examples of ways in which teachers can redistribute power in the classroom while still embracing the

ZPD role of expert (Sidelinger and Booth-Butterfield, 2010; Kessler, 2013; Stefaniak and Tracey, 2015). Because these approaches are different from traditional pedagogical models, it is not surprising that teachers may find them challenging, confusing, and/or overwhelming (Cook-Sather, 2014; Roberts, 2016).

Barriers to the creation of a co-constructed learning environment

Since co-constructed learning challenges traditional pedagogical approaches, it is understandable that barriers to implementation exist. Primarily, a co-constructed classroom requires a rebalance of power and restructuring of classroom goals that incorporates the learner's self-direction and internal motivation while also considering both the students' and teachers' worldviews, priorities, and lived experiences. Teachers must be invested in this restructure, including having a positive attitude and philosophical buy-in, and they must let go of rigid agendas and a sense of control in favour of allowing the students to direct the flow of the learning (Grimmett, 1997; Kolb and Kolb, 2005; Sidelinger and Booth-Butterfield, 2010; Bovill, 2013; Kessler, 2013; Mott and Lohr, 2015; Roberts, 2016; Ha and Pepin, 2017; Damşa, Nerland and Andreadakis, 2019). In addition, the expectations imposed on university instructors (such as evaluations, requirements for tenure, pressure to focus on the latest content theories, etc.) may directly conflict with the freedom needed for constructivist learning (Nash-Ditzel and Brown, 2012; Ha and Pepin, 2017; Jørgensen et al., 2020). Teachers may be struggling with a sense of loss of control and need time to adjust to the new dynamics and to undo years of learned classroom hierarchies and divided responsibilities (Burrell and Peters, 2015).

To properly facilitate the co-construction of a viable learning space, beyond the role of the teacher, resources are needed, such as physical infrastructures, technology, knowledge and expertise, curriculum development, learning activities, reading/writing materials, qualified teachers, and staff support (Kolb and Kolb, 2005; Bovill, 2013; Damşa, Nerland and Andreadakis, 2019). If an institution wants to truly embrace a co-constructed learning dynamic, they must implement programmes around a centralised mission (at an institutional and/or programme level) and with appropriate support including proper faculty/staff, sufficient

resources, experiential opportunities and a scaffolded curriculum (Kolb and Kolb, 2005; Damşa, Nerland and Andreadakis, 2019). The foundation on which co-constructed curricula can be designed and implemented rests on the ability for the institution to understand and embrace a new definition of learning.

Cautions for the co-constructed approach

Although much of the literature promotes a positive view of co-constructed learning, some authors offer words of caution when using this approach (Grimmett, 1997; Pillay, 2002; Morrone and Tarr, 2005; Mascolo, 2009). Morrone and Tarr (2005) suggest that educators ought to use caution when implementing one specific theoretical model for teaching and learning; instead, educators should consider which teaching and learning applications work best and for whom. Pillay also (2002) offers caution in the hyper-fixation of learner-centred approaches in higher education in that there has been too much focus on the procedural and logistical elements of implementing constructivist methods that specific student needs have been neglected. The shift to learner-centred approaches has 'assumed a degree of universality in learners' needs.... However, we know that the only universality in learners' needs is variations' (Pillay, 2002, p. 94). If educators assume how the meaning-making will take shape and develop a generalised idea of how knowledge is constructed on behalf of their students, there is potential for missed learning opportunities and neglect of diverse student needs (Pillay, 2002).

Other authors give warnings not to lose the role of teacher in a co-constructed classroom (Mascolo, 2009; Pillay, 2002). Fundamentally, teachers still have an increased level of expertise, and their role is necessary in the ZPD, but there is a fine line between offering guidance in a way that advances student learning and giving too much space for learning that the student becomes disengaged. Mascolo (2009) said it well: 'the idea that students must actively construct their skills and understandings *for themselves* is not the same as suggesting that children must actively construct their skills and understandings *by themselves*' (p. 7, emphasis in original). Therefore, although the goal is for students to co-construct their knowledge and make meaning for themselves, the literature cautions teachers

to keep hold of some aspects of the teacher-as-expert model, especially when the element of power is necessary to create an equitable learning environment and to advance student knowledge with new content.

In summary, taking a co-constructed approach in a formal learning environment is not easy and must be done with intentionality. The literature suggests various types of activities, frameworks, and materials that can be used in the classroom to encourage a co-constructed approach. In addition, teachers must be aware of and give space for students' lived experiences to have a place in the learning environment. In doing so, however, there is caution to a one-size-fits-all approach and requires attention to individual student needs. If done thoughtfully and intentionally, co-constructed approaches can have a meaningful, positive impact on student learning.

Conclusion

The field of learning development is already pushing toward a reimagined model of teaching and learning, placing more responsibility on learners and designing learning environments that rely on engagement and participatory collaboration (Roberts, 2016). Co-constructed learning methods, which are collaborative and participatory by nature, challenge the teacher-as-expert model and replace it with an approach that gives students a more active role in their own formal education. This review explored how constructivist, sociocultural, and third space theoretical approaches to teaching and learning manifest in real university classrooms. From the literature, four thematic outcomes of student learning (skill development, engagement, meaning-making, and having purpose) and two activators of student learning (learning through relationships and creating safe spaces) emerged as factors that may enhance teaching and learning. Implications were identified for teaching, including teaching methods and classroom activities that align with co-constructed learning and the role of teachers. This review suggests that co-constructed approaches, when implemented strategically, can offer important benefits for teaching and learning.

Limitations

Although this paper attempts to cover a range of theoretical and empirical support, it is limited by the small sample of literature due to inclusion criteria. Many studies were excluded because they pertained to compulsory education or graduate school environments. This review assumes generalisability of the implementation of co-constructed learning, leaving potential oversight of the differences in teacher abilities, availability of resources, scopes of practice, and institutional limitations. In addition, when conducting initial literature searches, I discovered a lack of consistency with terminology. Sometimes authors referred to collaborative learning or learner-centred teaching methods but were not addressing constructivist theory (having students engage in group work or practice case studies does not give way to constructivism by default). Therefore, it can be difficult to tease out which studies are framed in my theories of interest and which are using the same key words to explore something different.

Beyond identifying relevant literature, this paper is limited by the cultural influences of its empirical examples. All studies were based in countries with a general acceptance of individualism (i.e. not strong collectivist cultures). This could have a significant impact on the understanding, acceptance, and implementation of co-constructed approaches to teaching and learning in other settings of higher education. For cultures with a larger emphasis on power differentials and/or the expectation to respect authority, co-constructed methods in a classroom setting may be difficult to conduct, if able to exist at all.

Future research

The process of collecting sources for this review generated a substantial amount of theoretical and anecdotal support for co-constructed, constructivist, sociocultural, and third space learning in university settings. Fewer results with original research or empirical analysis were found, especially covering a variety of cultural contexts. This suggests that there is room for further research to empirically support (or challenge) the well-versed theories of how co-constructed learning takes shape, particularly in university settings and across diverse

populations. Furthermore, given the suggested use of popular culture and relevant societal topics in the classroom as a way to encourage student engagement, the juxtaposition between using culture as a teaching tool with the emerging literature to decolonise higher education creates a fascinating area of future research.

In addition, further exploration could be given to the nuances between arts, social science, and STEM-based courses. Given the fundamental epistemological differences between fields, it could be hypothesised that co-constructed learning approaches may emerge differently between those contexts. Additional empirical research could support further consideration, by both teachers and higher education administrators, of innovative approaches in teaching and learning beyond or in conjunction with traditional pedagogical methods.

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