

The Curriculum Innovation Canvas: A Design Thinking Framework for the Engaged Educational Entrepreneur

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Abstract

Integrating literature on entrepreneurial business models and community-based experiential learning, we propose a new framework to advance the practice of curriculum innovation. Grounded in principles of design thinking, the curriculum innovation canvas provides a human-centered, collaborative, and holistic platform for instructors, curriculum developers, and administrators to engage in innovation and implementation of experiential courses or programs—particularly those that involve community or organizational partnerships. The canvas promotes a creative and fluid approach to curriculum development. It prompts the consideration of the value propositions offered to various stakeholders (students, community partners, faculty peers, etc.) as well as how to involve stakeholders in the development and implementation process toward mutually beneficial outcomes in a complex and challenging environment. Evidence from an extensive prototyping process indicates that it can effectively assist instructors, administrators, students, and community partners in a variety of contexts.

Introduction

“Schools do not exist in a vacuum. They are part of the society that surrounds them.”

(Postiglione & Lee, 1997, p. 2)

Educational institutions are operating in a shifting and complex landscape, with significant changes in both the external and internal environment (*Lau, 2001*). There is increasing pressure for and greater public expectation of schools’ responsiveness, accountability, and responsibility—from improving students’ job readiness and civic responsibility to serving as better organizational citizens and stewards of social justice and societal well-being. Educators are thus tasked with implementing meaningful and effective curriculum that creates an experience for students, in order to achieve outcomes such as student learning, skill building, employability, and civic engagement, while also ensuring reciprocal and authentic value cocreation with the communities in which the

institutions operate. To help address these challenges, we created the curriculum innovation canvas by leveraging design thinking principles to build a human-centered, collaborative, and holistic platform that supports the innovation and implementation of experiential courses or programs—particularly those that involve community or organizational partnerships. Of fundamental importance is the consideration and involvement of multiple stakeholders, and a focus on reciprocity and mutually beneficial outcomes in a complex and challenging environment.

The Opportunities and Challenges of Community-Based Experiential Learning

There is increasing pressure for and greater public expectation of schools' responsiveness, accountability, and responsibility. One study found a troubling disparity between the needs of the business community and the curriculum and training provided to students, resulting in low student proficiency and job readiness (*David, David, & David, 2011; see also Jackson & Chapman, 2012; Pfeffer & Fong, 2002*). Beyond improving students' career preparation, there are also calls for business schools to be more responsive to stakeholders more broadly, including the communities in which they operate (*Godfrey, Illes, & Berry, 2005*), and there are plenty of criticisms about the contribution of business schools to society (*e.g., Bennis & O'Toole, 2005; Pfeffer & Fong, 2002*). Such expectations are not unique to business schools, and the education system more broadly is seen as a means through which students can—and should—become responsible citizens with a concern for social justice (*Westheimer & Kahne, 2004*), citizenship (*DiPadova-Stocks, 2005*), and the well-being of others (*Kahne & Sporte, 2008*). Educators must therefore develop curriculum that has impact and that creates an experience for students in order to enhance outcomes such as student learning, skill building, employability, and civic engagement.

There has been a growing emphasis on experiential learning approaches as one potential remedy. Examples of experiential learning include simulations, undergraduate research, study abroad, games, model building, and internships, as well as service-learning and other forms of community-engaged learning (*GMCTE, 2015*). Experiential learning can enhance learning outcomes for students and provide them with opportunities to practice what they learn in the classroom (*AACSB, 2015; Kolb, 1984*) and can help address the assertion that students need to be prepared for their careers by not only acquiring but *applying* the necessary knowledge and skills (*e.g.,*

Pfeffer & Fong, 2002)—that is, not only “knowing” but also “doing” and “being” (Datar, Garvin, & Cullen, 2011).

In particular, experiential learning that involves community or business partners can help to address the societal pressures for business schools to engage their stakeholders while simultaneously benefiting students. Such approaches are becoming more common in postsecondary institutions (Barreno, Elliott, Madueke, & Sarny, 2013), and the language of community engagement is prominent in institutional rhetoric (Randall, 2010). Research has demonstrated higher levels of engagement and improved educational outcomes, such as the ability to apply theory to practice and engaging in “deep learning,” among students who participate in community-based experiential learning (Lenton et al., 2014). Service-learning, for example, is associated with many positive outcomes for students, such as academic learning and achievement (Driscoll, Holland, Gelmon, & Kerrigan, 1996; Moely & Ilustre, 2014), greater personal efficacy (Eyler, Giles, & Braxton, 1997; Kendrick, 1996) and moral development (Boss, 1994; Gorman, 1994), enhanced leadership and communication skills (Eyler & Giles, 1999), and a stronger sense of social responsibility (Kendrick, 1996).

However, compared to traditional lecture-based—or “sage on stage”—approaches, there are unique and significant challenges in creating experiential learning curriculum and course structures, particularly those that involve external partnerships. Courses involving stakeholders like community organizations can be especially challenging and resource intensive for faculty in terms of planning, risk, and relationship management (Lenton et al., 2014). Such courses are much more complex due to balancing the needs and demands of multiple stakeholders and juggling many more variables. Moreover, such efforts are not always recognized or rewarded (Barreno et al., 2013), making it incumbent upon individual faculty members to champion their own innovative or alternative approaches to curriculum, and to advocate for support or resources within their institutional systems. Another important consideration is that the voices of the community partners and stakeholders are often neglected in the process, and there is debate as to whether such approaches as service-learning actually serve communities (Stoecker & Tryon, 2009). These types of courses are often more demanding for students as well, not only because of higher workload, but also greater ambiguity (Lenton et al., 2014). Sometimes the connections between activities in the community and classroom learning objectives are unclear (Eyler & Giles, 1999).

In sum, community-based experiential learning offers a multitude of potential benefits to those involved, but it can also present significant challenges in terms of development and implementation. For instance, service-learning typically involves multiple stakeholders and is a very complex approach to teaching and learning. (Although a full review of other models and frameworks in the teaching and learning literature is beyond the scope of our article, we refer interested readers to *Zhang et al., 2011*, and *Lowery et al., 2006*, as excellent complementary resources.) Educators across disciplines may find themselves in the midst of a complex, demanding, and uncertain environment, in which they face challenges that are ill-defined and ill-structured with many moving parts—situations that can be colloquially termed “messy problems” and that require a creative approach to finding solutions (also called “wicked problems,” e.g., *Buchanan, 1992*; *Dunne & Martin, 2006*; *Koh, Chai, Wong, & Hong, 2015*). This is the context and purpose of our article—assisting educators with creating effective and innovative curriculum within a complex system where stakeholder ecosystems are dynamic, multidimensional, and increasingly prominent. In particular, we focus on community-based experiential learning, as this is where the complexities in stakeholder relationships not only have a *direct impact* on teaching objectives but may in fact be an integral *part* of these objectives.

Although they are not equivalent, we observe that educators and entrepreneurs share a similar challenge: creating something they believe will be of value to their customers (or, in an educational context, the students). Entrepreneurs must find ways of transforming intangible inspirations into tangible outcomes that stakeholders perceive to be valuable. Instructors and curriculum developers face these same challenges in their role as “educational entrepreneurs,” constantly creating new content and innovating new methods of delivery. As one educator stated, “The professor is not merely an information-dispensing machine, but a skilled navigator of a complex landscape” (*Badke, 2012, p. 125*). The parallels between curriculum development and entrepreneurship are noteworthy; however, educators face additional complexities in having to deal with a multitude of stakeholders combined with the constraints of an often-bureaucratic system that is not always nimble or conducive to innovation.

To address this issue, we drew upon research and practice in design thinking, an approach specifically intended to tackle “messy” problems (e.g., *Brown 2008a*; *Buchanan, 1992*; *Dunne & Martin, 2006*; *Glen, Suci, & Baughn, 2014*). Our first step was informed by literature

on leading corporate innovators, like Google, Facebook, and IDEO (an iconic design firm known for implementing design thinking). As Berger (2012) notes, such firms are jump-starting their creative problem-solving processes by “asking the right questions using the best wording . . . often using the same three words: *How Might We*.” In this spirit, we posed two questions to get us started: “*How might we create a comprehensive but approachable and intuitive framework for instructors and administrators to guide curriculum innovation and development?*” and “*How might we create a framework that addresses multiple stakeholder needs and that positions engagement at the forefront of the process?*”

Design Thinking

“Design thinking is the confidence that new, better things are possible and that you can make them happen.”
(IDEO, 2012a, p. 11)

Design thinking is a user-centric approach to innovation and invention that considers users’ needs and preferences, as well as how they interact with a potential product and its broader infrastructure. Brown (2008a) describes Thomas Edison’s invention of the electric lightbulb as an illustrative example: Edison wasn’t just thinking about the lightbulb; he was considering people’s needs and uses of such a product—and thus conceived an entire system of power generation and transmission to support it. The example is poignant because design thinking breaks the myth of the “lone scientist” or individual “creative genius” and instead shows innovation as the result of iterative human-centered discovery, collaboration, and thinking about the issue from multiple perspectives (e.g., colleagues, users, clients, customers; Brown, 2008a).

Hassi and Laakso (2011) provided a review of the design thinking literature, in which they contend that there are many representations of design thinking and no definitive list of characteristics—in fact, Tim Brown (president and CEO of IDEO), a widely known writer and speaker on design thinking, has similarly posed the question, “Is there a general definition of Design Thinking?” (Brown, 2008b). However, in their review, Hassi and Laakso provide a germane overview, and they identify common characteristics in the management discourse. In particular, they identified the characteristics *human-centered*, *collaboration*, and *holistic* as among the “key ingredients” of design thinking.

The *human-centered* element is one of the defining features of design thinking philosophy: involving the “user” (e.g., customer) in the design and development process from the outset in order to develop a product or service that meets their needs and preferences (e.g., Brown, 2008a; Hassi & Laakso, 2011). Glen et al. (2014) similarly describe “attention to user needs” as a defining characteristic, insofar as a solution to a problem is judged according to user preferences and perceptions, as opposed to being scientifically “true” or “false.” Understanding user needs can be achieved by observing them in their natural setting (Glen et al., 2014). This ties directly to the element of *collaboration*, because the process connects the problem-solver (i.e., instructor or curriculum developer, in our case) to those affected by their decisions (Glen et al., 2014). Collaboration with a wide range of stakeholders is integral to design thinking and critical for solving complex problems, because it offers access to multiple diverse perspectives and knowledge from different fields (Hassi & Laakso, 2011), and it stimulates innovation (Benson & Dresdow, 2014). Collaboration with the user is particularly important, again to observe and understand their needs and preferences (Brown, 2008a) and to create value through partnerships (Amit & Zott, 2010). Adopting a holistic view is another defining characteristic of design thinking, and involves understanding not only stakeholders’ functional needs but also social, emotional, and cultural factors and the environment or context in which they exist (Hassi & Laakso, 2011). All three of these design thinking principles constitute important forms of stakeholder engagement, and this is critical for understanding the landscape within which innovations are being developed.

In terms of process, design thinking is iterative and characterized by *prototyping* (or experimentation) and *visualization* as a means of arriving at a solution to a problem (Brown, 2008a; Glen et al., 2014; Hassi & Laakso, 2011). As Glen et al. (2014) explain, visualization involves graphics, sketches, and other imagery to express ideas as opposed to relying only on text, for instance. Visualization is an integral part of moving abstract thinking into fully formed ideas and mapping out a representation of the available information (Boni, Weingart, & Evenson, 2009). Prototyping then involves making concepts and ideas into something concrete and exploring many possible solutions through a process of experimentation or “thinking by doing” (e.g., Hassi & Laakso, 2011). The purpose of prototyping is to repeatedly gather feedback from users and identify improvements for future prototypes and potential solutions (Brown, 2008a).

Design Thinking for Curriculum Development

Design thinking has been applied in numerous contexts, including education. For instance, IDEO created a toolkit based on design thinking for primary/secondary school educators to create better classrooms and learning environments for students and to involve parents and community in the process (*IDEO, 2012a, 2012b*). Scholars have advocated for the inclusion of design thinking in business school curricula, because it is a critical skill that can enable students to navigate uncertainty and solve complex or messy problems in their future careers (*Glen et al., 2014; see also Boni et al., 2009; Dunne & Martin, 2006; Welsh & Dehler, 2012; as well as Koh et al., 2015*, regarding the use of design thinking in school curricula more broadly). We extend this prior work by applying design thinking principles to the curriculum *development* process itself (including creation, implementation, and review of courses and programs), which can likewise be a powerful and effective approach. Thus, design thinking is advantageous not only as a skill to teach students, but also for applying the principles ourselves to design courses and curriculum—particularly in the complex context of experiential and community-based approaches. A human-centered, collaborative, holistic approach enables greater responsiveness to stakeholders' needs, maximizes mutual benefit through cocreation of value, and increases the likelihood of successful and sustainable implementation of an idea through buy-in and engagement.

As we describe below, each of these elements is embedded in both the development and application of the *curriculum innovation canvas*, the framework we ultimately created to address our questions of “how we might” assist educators with the process of developing engaging, responsive curricula and enable them to bring their innovative ideas to life. The curriculum innovation canvas provides an organizing, planning, and reviewing platform that can be a reference point through all stages of the process from idea generation to implementation to retrospective gap analysis. The canvas was created by applying the design thinking philosophy of purposefully and meaningfully involving stakeholders in the development process, and likewise it serves to guide educators through the process of applying design thinking principles in their own curriculum development work. In the sections that follow, we outline the methods we used to create the curriculum innovation canvas, including visualization and prototyping; the components of the canvas; and how it can be applied. We conclude with implications for theory, research, and practice.

Methodology

“The more ‘finished’ a prototype seems, the less likely its creators will be to pay attention to and profit from feedback. The goal of prototyping ... is to learn about the strengths and weaknesses of the idea and to identify new directions that further prototypes might take.”
(*Brown, 2008, p. 3*)

Ultimately, a design thinking approach is a process of prototyping and experimentation, where the end result is shaped through user involvement and feedback. This is the type of approach our curriculum innovation canvas is meant to elicit in its users, but it is also the approach we took to developing it. To begin, we cocreated an initial conceptual framework (i.e., the earliest iteration or prototype of the canvas, which was a fairly rudimentary sketch), which was informed by gaps in the literature combined with our experience with creating, adapting, and implementing experiential and community-based curriculum in management education. We drew structural inspiration from the literature on business models (e.g., *Amit & Zott, 2010; Osterwalder, 2004; Zott, Amit, & Massa, 2011*). In particular, Osterwalder and Pigneur’s (2010) business model generation is an example in the entrepreneurial space that offered a generalizable starting point with a visual representation of the principles. Their model uses building blocks arranged in four categories: product, customer, infrastructure, and finance, which some have likened to Kaplan and Norton’s (1996) “balanced scorecard” for strategy implementation (*Trimi & Berbegal-Mirabent, 2012*). Osterwalder’s framework—the model to which our project is structurally most similar—is well known and widely used, but it is certainly not the only one. For instance, Hulme (2011) created the business model framework, which is quite similar. (A full review of such models is beyond the scope and intent of our article, but see *Zott et al., 2011*, for a review. Rather, we drew inspiration from the literature on business models generally speaking, insofar as it helped us create a new platform for curriculum innovation.)

Using these as best-practice examples, we sketched out an idea of a curriculum innovation canvas to reflect the educational entrepreneur’s landscape. After this initial working prototype was created, we sought users representing diverse backgrounds and perspectives as our testing grounds to solicit feedback and identify strengths and weaknesses. We consulted many different stakeholder groups within the educational ecosystem to ensure

that the result was relevant and would meet their needs—this was also how we identified who the users were, including curriculum developers, instructors, administrators, community organizations, and students. We outline the major stages of the prototyping process below, followed by a description of the end “product” in the next section. Overall, we approached the process by moving from divergent thinking (broad, considering all possible options) to convergent thinking (narrowing, converging on best options), which is another defining characteristic of design thinking (e.g., *Hassi & Laakso, 2011*).

Samples of Users and Contexts for Experimentation

Individual meetings. First, we solicited input from two curriculum development specialists at our institution’s Centre for Teaching Effectiveness. We met with them individually and took notes based on their impressions and feedback. In each case, we briefly described the general premise and then introduced the curriculum innovation canvas (in its earliest form) and its purpose. We explained the logic and rationale, then allowed time for the specialist to review and navigate the structure. We then asked them to describe their first impressions and reactions, identify any issues or gaps in the logic of how to use the tool, ask clarifying questions, and offer suggestions. The context of the discussions was broad, with the intent of assessing overall impressions and the potential merits or limitations of such a framework (i.e., divergent stage).

Focus Group 1. Next, we held a focus group with a full team of curriculum development specialists, the Curriculum Innovation Team from the Centre for Teaching Effectiveness. Four individuals participated, two of whom had participated in the initial conversations described above. All four hold Ph.D.s in their respective fields, and the scope of their current positions includes program and curriculum innovation and revitalization, students’ experiences of their learning environments, assessment and program evaluation, and engagement. We cofacilitated the focus group discussion, which lasted approximately 90 minutes. We had prepared some questions in advance, because we were curious about specific elements of the user experience. However, we also allowed for fluid conversation threads and open dialogue. The examination of the canvas was now more in-depth, and our intent was to put the concept to the test. Our core questions included elements of *usability* (e.g., Does the logic of the canvas make sense? What would some of the challenges be in using this tool?), *scope* (e.g., Is there missing

or extraneous content?), *context* (e.g., In what types of courses or curriculum development contexts would this tool be most effective? To whom would it be most useful?), and *contribution* (e.g., How does this compare with existing tools or frameworks in the education literatures?).

Focus Group 2. This second focus group included individuals involved in a community-based inner-city health clinic that is largely operated through partnerships with faculty and students from various health science colleges at our university. Focus group attendees included the clinic's program coordinator, two of its steering committee members (both affiliated with the university), and a graduate student who had participated in community outreach activities at the clinic as part of her coursework. The group applied the curriculum innovation canvas to their context, which is based on a very complex system of partnerships. They frequently experience challenges with setting clear and feasible expectations for students' work at the community clinic, ensuring appropriate interactions between students and patients/clients of the clinic, connecting the student experience to academic learning objectives, and so on.

Workshop 1. We then held a workshop for faculty members who currently have or plan to have some element of community engagement in the courses they are teaching. The attendees represented a variety of academic backgrounds, including biology, ecology, medicine, business, environmental sustainability, pharmacy, and educational development, and varying levels of past experience with community-based teaching and learning. In the focus groups, we had concentrated on conceptual discussion and critical evaluation of the canvas, but for this workshop we asked participants to actively use the canvas from start to finish. After explaining the genesis of the canvas and its purpose, logic, and navigation, we asked participants to work in groups of two to four, using the canvas to map out an actual community-based experiential course that they were planning or delivering. During the concluding debrief, we solicited detailed feedback about their experience with the canvas.

Workshop 2. Next, we conducted a workshop with students, many of whom were from the business school, with some from other disciplines such as education. As with the previous workshop, after explaining the premise of the canvas we asked students to work in groups to experiment with it. We also asked them to go through each section and identify gaps, omissions, or other problems, based on their own experiences.

Research seminar. Lastly, we presented the nearly final product to approximately 30 faculty and staff in our internal research seminar series. We described the basic premise of the canvas, as well as its theoretical and conceptual roots, and then walked attendees through each of its components. Based on discussion during and after this seminar, we made some additional adjustments and reconfirmed some of the changes already made.

Outcomes of the Prototyping Process

The level of engagement with the canvas at each stage was marked. Users were excited to experiment with it and to “play” creatively with their ideas. During each user test, we took notes, made sketches, and moved blocks around, based on the feedback we received. We created a revised prototype after each test before presenting it to another group of users for further experimentation, including adding or deleting features, adjusting wording, moving shapes, and shifting graphics. Changes at each stage ranged from minor wordsmithing to substantive revisions, as the different stakeholder groups experimented with the canvas and applied it to their own context. Sometimes elements were added based on user ideas but subsequently removed after further trials. For instance, at one point the components of the canvas were numbered to help users navigate through the flow, but further feedback suggested the numbers were unnecessary and even restrictive. One faculty member commented, “I think the numbering is useful as a guideline, but obscures the iterative process that seems to be a key element of working through it.”

Gradually the needs and preferences of the user groups began to converge as we made adjustments. We created guiding questions for each block of the canvas, based on questions that arose in the various groups about how to use the tool. We added arrows and shading to show general movement and connection among the ideas, but we emphasized that there is no “right” or “wrong” way to approach it, nor is any element static or permanent. In all, we created 13 versions of the curriculum innovation canvas, each being thoroughly examined and manipulated by its potential users (divergent approach) before arriving at a template that seemed to best meet users’ needs (convergent approach).

Although surveys are not typical of a design thinking methodology per se, we also administered a brief feedback instrument at the end of both workshops, asking specific questions about the user experience with the canvas. Items were rated on a scale of 1

(Strongly disagree) to 5 (Strongly agree), and 28 people from a wide variety of academic backgrounds completed our voluntary survey. Results indicated that participants found the canvas easy to use ($M = 4.32, SD = 0.48$), that the logic made sense ($M = 4.50, SD = 1.00$), and that the canvas offers value to instructors ($M = 4.89, SD = 0.31$), community partners ($M = 4.25, SD = 0.84$), administrators ($M = 4.59, SD = 0.57$), and students ($M = 4.17, SD = 1.20$). We observed themes in the contributions identified by users—the things that made the canvas appealing and exciting to them: (1) representing everything visually on the page rather than via a long, text-heavy course proposal form (i.e., it served to engage visual learners/thinkers and also illustrated the interrelationships between elements better than a written document or syllabus); (2) seeing all the things that need to be considered, including some aspects that they might not have realized previously (i.e., identifying gaps and creating a complete strategy before moving forward); and (3) the interactive, organic nature of the process that allowed them to innovate and experiment with different ideas (i.e., it was fluid, flexible, and fun). Next, we describe the outcome of the process described above—the curriculum innovation canvas—including an overview of each component and its purpose, intent, and application.

The Curriculum Innovation Canvas

Overview and Logic of the Framework

The Curriculum Innovation Canvas is shown in Figure 1, with the blank worksheet provided in Figure 2. Each “block” in the canvas framework represents a step in the process, like building blocks. Although the arrows and shapes show the general logic or flow, we emphasize that ideas might germinate from almost any point on the canvas, and its application is meant to be adaptable to the user’s needs. It does not necessarily flow in a linear left-to-right pattern; this too is intentional and derived from design thinking principles that encourage a holistic approach, apply integrative thinking, and conceptualize a system of related activities rather than a predefined or linear series of steps (*Brown, 2008a*). As Knight (2001) observes in his discussion of complexity and curriculum, “creativity, innovation and flexibility depend on there being slack, spaces or spare capacity in a system” (p. 374).

Figure 1. The Curriculum Innovation Canvas

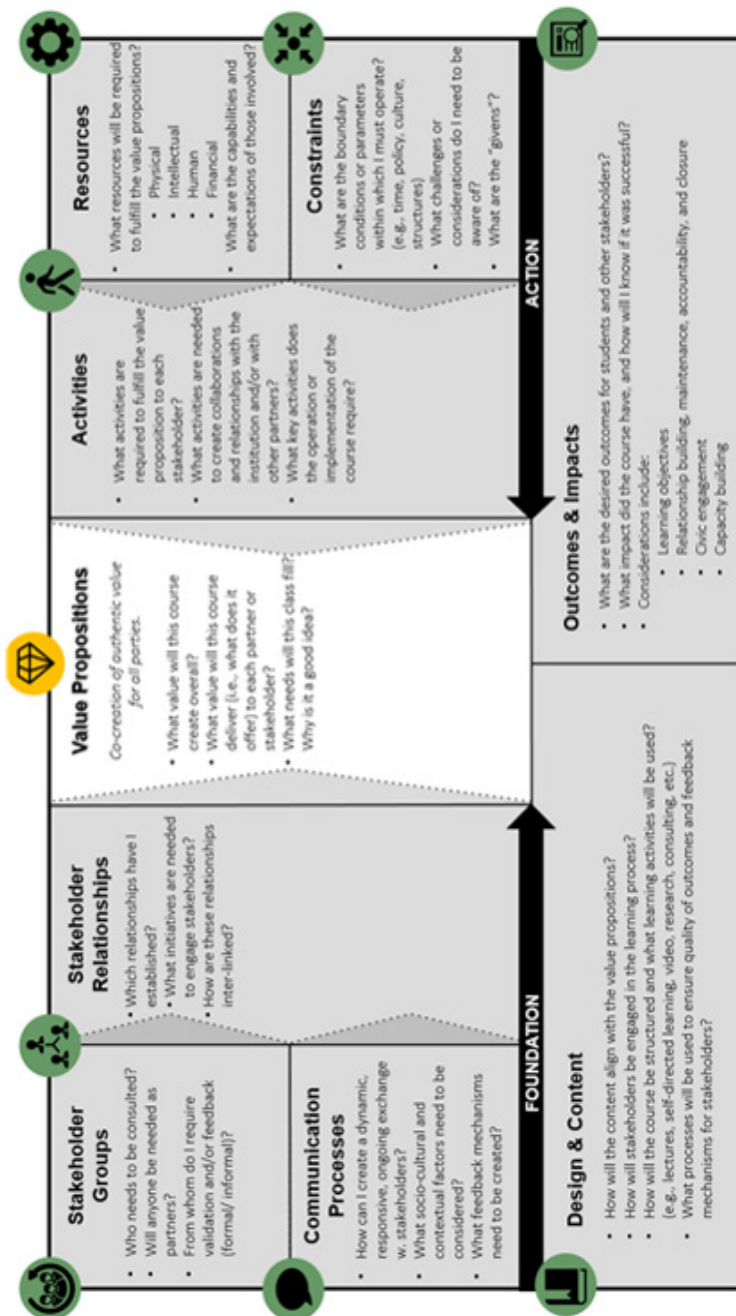
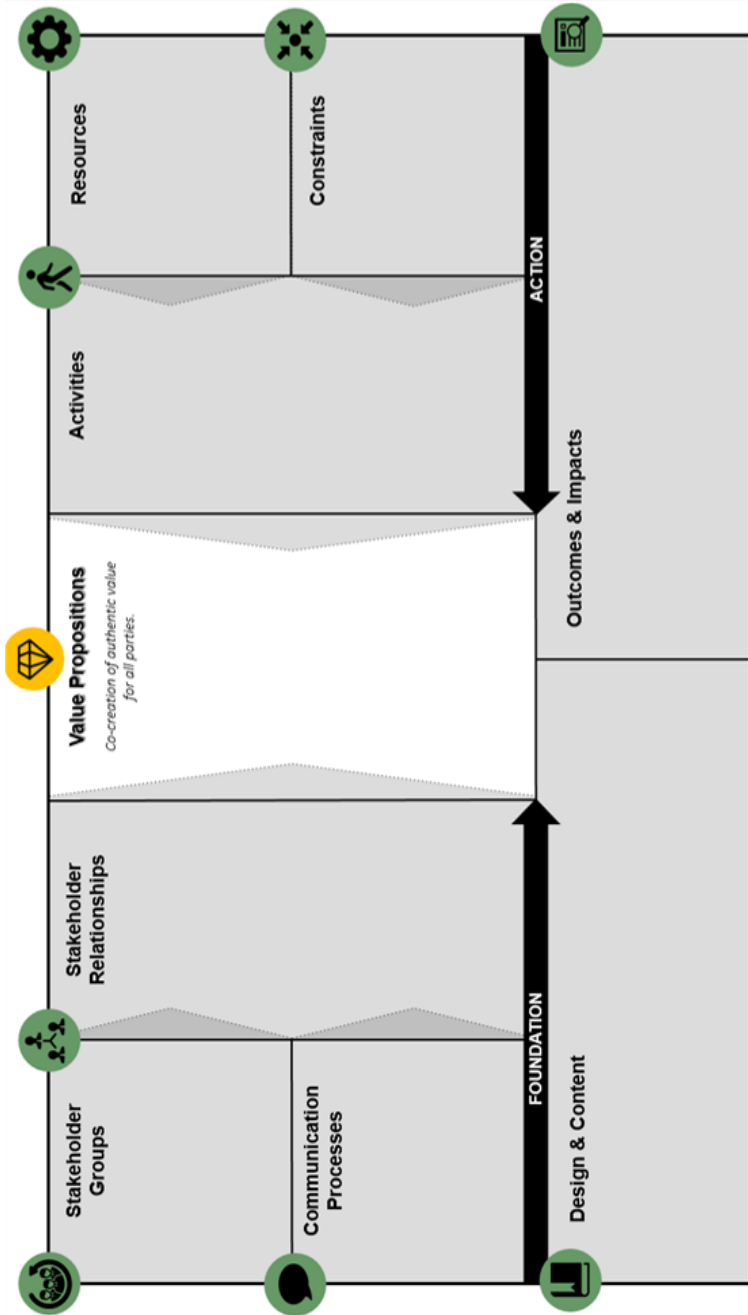


Figure 2. The Curriculum Innovation Canvas Worksheet



Icons made by Freepik and OCHA from www.flaticon.com

The two sides of the curriculum innovation canvas, delineated by the thick arrows, represent different phases of the curriculum development process. First, on the left, are the foundation elements, such as identifying stakeholders, building relationships, and developing inclusive communication processes. On the right are the action elements that involve moving the idea toward implementation, such as identifying resources and defining desired outcomes. The placement of blocks on each side also has meaning: the smaller outer blocks support the larger block immediately adjacent, and the larger horizontal blocks at the bottom are related to the core curriculum and methods for the course itself. Purposely in the center are the *value propositions* (cocreated benefits, described in the next section), to which all other elements connect. The arrows provide visual cues and movement, as well as a reminder to align each element to the value propositions. The icons are also meant to enhance the visual experience by providing a symbolic representation of what each block contributes to the holistic view.

We note that although this structure may suggest a logical flow within and between the different sides of the canvas, we are certainly not proposing the canvas as a mechanistic and linear process. Rather, as we indicated earlier, using the canvas should be organic and iterative: It prompts breaking things into smaller tasks so that they can be combined, examined, and molded into an infinite variety of patterns and possibilities. Moreover, the simple visual elements of the canvas facilitate easy navigation between ideas and examining multiple scenarios.

Next, we briefly describe the rationale for each block of the curriculum innovation canvas, each of which was defined through the prototyping process. For each block, we provide several guiding questions to help the user identify and articulate their own content for each area. Throughout our descriptions, we operate within the framework of a “course,” with the assertion that it can also be applied effectively to a course component (e.g., project, assignment), program, or collegewide curriculum.

Value Propositions

- What value will this course create overall?
- What value will this course deliver (i.e., what does it offer) to each partner or stakeholder?
- What needs will this course fill? Why is it a good idea?

Expressed in the language of business models, value propositions reflect “the benefit that customers can expect from your prod-

ucts and services” (Osterwalder, Pigneur, Bernarda, Smith, & Papadakis, 2014, p. 31). Our definition, developed with the users described earlier, is the *cocreation of authentic value for all parties*. Our approach is therefore more aligned with the literature on service logic, such that value is offered through a process of coproduction between companies and their customers, as opposed to customers simply being viewed as “receivers of value” (Michel, Vargo, & Lusch, 2007; Normann & Ramirez, 1993). However, we extend this further by recognizing multiple stakeholders in the context of curriculum innovation (beyond the traditional “customer”) and deliberately representing their voices in the process. Value propositions essentially express the assessment of the benefit each stakeholder receives (whether tangible or intangible) as seen from their perspective. Given that there are multiple perspectives taken into account, and multiple constituents to whom a course will offer value, there will likely be more than one value proposition to consider.

Value propositions are distinct from learning objectives, in that value propositions encompass a broader conceptualization of benefits and outcomes, and they also consider more than just the student stakeholder. This may be advantageous over more traditional approaches that focus largely on learning objectives or developing a “vision” for a course (e.g., Schmidt-Wilk, 2011), as neither learning objectives nor vision will articulate the “business case” for a new idea the way value propositions will. Making the business case may be necessary in advocating for support or resources. For instance, in spite of the benefits to students and other stakeholders, community engagement may not receive formal support or recognition in many postsecondary institutions (e.g., Barreno et al., 2013).

Value propositions can therefore show a variety of stakeholders, including decision makers or political gatekeepers (e.g., those involved in the collegial process of new course approvals and those responsible for resource distribution), why the course is a good idea and how it benefits them—rather than making only the value to students explicit. That said, the learning objectives (discussed in a later block) must be directly aligned with the value propositions, and may be an important part of informing the value proposition to students in particular. Value propositions are the starting place and core of the curriculum innovation canvas, and they anchor all other elements—depicted by the location at the center of the framework. To construct value propositions, it may be useful to consider stakeholder groups, discussed next.

Stakeholder Groups

- Who needs to be consulted?
- Will anyone be needed as partners?
- From whom do I require validation and/or feedback (formal/informal)?

We define *stakeholder* relatively broadly, as anyone who affects or is affected by a particular course or program. This may include students, faculty colleagues, department heads, and deans (all of whom can be considered internal stakeholders), as well as community-based organizations, funding agents, government, and businesses (external stakeholders). This can build the foundation for partnerships and embed a philosophy of cocreation throughout the entire process—consistent with the human-centered and collaboration principles of design thinking—in particular with students and community partners.

Not all stakeholders will be involved directly in the course, as students and community partners would be, but the purpose of identifying stakeholder groups is to be more inclusive than would typically be the case. Understanding the needs and perspectives of all stakeholders is valuable for advocacy (i.e., building the business case by articulating value propositions for all stakeholders, including those in key positions of influence) and for shaping elements of course design that may impact others. For example, in creating an assignment that involves students providing deliverables (e.g., business plan, marketing materials) to a partner organization, it is critical to investigate whether this will adversely affect other community-based courses and their offerings, especially within the same academic unit.

Stakeholder Relationships

- Which relationships have I established?
- What initiatives are needed to engage stakeholders?
- How are these relationships interlinked?

For pedagogies such as service-learning, reciprocity is a core principle, such that all participants (i.e., institutions, students, and communities) are at once learners, providers, and recipients—“we should all both teach and learn” (Lowery *et al.*, 2006, p. 53). In fact, reciprocity is a prevailing principle throughout nearly every section of the canvas—an enduring focus on ensuring mutual and authentic value for both internal and external stakeholders. This is especially true in publicly funded institutions, which are perceived to be stewards of the public interest. Implementation of

courses that involve community or organization partners by definition involves serving the needs of stakeholders both internal and external to the university. Such initiatives may be highly dependent on the instructor's ability to bridge these different contexts by building and maintaining relationships with key stakeholders in both "worlds." This can be complex and challenging because, as alluded to in the process of identifying stakeholder groups, not all stakeholder relationships are created equal. Different people or groups will have roles of different magnitude, but each should be considered. The canvas highlights that building these relationships is part of an intentional curriculum planning process, rather than a "just in time" or reactionary response.

Communication Processes

- How can I create a dynamic, responsive, ongoing exchange with stakeholders?
- What contextual factors need to be considered?
- What feedback mechanisms need to be created?

The goal of establishing communication processes is to uncover the information or perspectives needed to increase the likelihood of success and be responsive to stakeholders. In particular, it is crucial to devote time to communication processes with community partners (Tryon, Hilgendorf, & Scott, 2009). However, time is not the only critical factor. In their examination of service-learning partnerships, Tryon et al. (2009) interviewed an organization staff member who commented that "often, nonprofits are filling professors' needs . . . I never see a [professor] look for what a community needs and then design their class around that" (p. 100). Similarly, Blouin and Perry (2009) found that one of the major barriers to successful service-learning initiatives was insufficient communication between instructors and organizations. Different stakeholders may also have different ways of providing and receiving information. Thus, consciously incorporating a responsive, open, two-way communication process can ensure that a course serves students' learning needs, but also genuinely addresses community needs (regardless of how *community* is defined). This ties directly back to the value propositions, in terms of continually seeking cocreated value to stakeholders.

Design and Content

- How will the content align with the value propositions?
- How will stakeholders be engaged in the learning process?
- How will the course be structured and what learning activities will be used (e.g., lectures, self-directed learning, video, research, consulting, etc.)?
- What processes will be used to ensure quality of outcomes and feedback mechanisms for stakeholders?

This block might be the most familiar component for educators, as it involves planning the content of the course (e.g., textbooks, resources), identifying teaching strategies and learning activities, and other aspects that might typically be reflected in a course syllabus (see *Whetten, 2007*, for a thoughtful discussion on effective course design). Experiential courses present unique learning contexts and development opportunities and thus require unique course design considerations. We assert that such factors should be incorporated into the “DNA” of a course, particularly if it involves community or organization partnerships.

First, the design and content should align with the value propositions, and the needs and desired benefits identified for each stakeholder should play a critical role in deciding how to structure the classes (for instance, the order of topics covered in class), create assignments, and ensure students acquire the knowledge and skills needed to fulfill the expectations of the course. Too often, the community partners’ needs, realities, and voice are insufficiently considered (*Stoecker & Tryon, 2009*). Tensions can surface due to different needs of institutions, students, and community partners, or misunderstandings and power struggles (*Lowery et al., 2006*). The value propositions for community partners should inform any tangible outcomes that students are expected to produce—ideally, this too should be developed through a process of cocreation with the partner(s) to define what the deliverable could look like (again highlighting the importance of reciprocity). These *a priori* discussions should increase alignment of perspectives and serve to manage expectations regarding what students are expected to achieve or produce, as well as facilitate better communication during the course and truly mutually beneficial (and perhaps longer term) partnerships.

Second, the course design should reflect accountability to stakeholders, and in particular to students and community/organization partners. Thus, in completing this block, quality assur-

ance and feedback mechanisms should be considered. For instance, if student projects are completed for a community partner, what checks and balances will be used throughout the semester to ensure that the work is being performed according to expectations? What opportunities will be provided for feedback and mentorship for students regarding their work and/or conduct, and to support them? How will the instructor ensure that the final product (e.g., report, presentation) meets the desired quality standard?

Outcomes and Impacts

- What are the desired outcomes for students and other stakeholders?
- What impact did the course have, and how will I know if it was successful?
- Considerations include learning objectives; relationship building, maintenance, accountability, and closure; civic engagement; capacity building

The most obvious focus for outcomes and impacts is student learning, which is generally the primary reason for any curriculum. In the context of community-based curriculum, assessment of student learning is an indicator of knowledge and/or skills transfer, but may also serve as incentive for students to “engage more deeply and at a higher level” (*Biggs & Tang, 2011*), rather than just reiterating content (*Lenton et al., 2014*). In their report on community organizations’ motivations to participate in service-learning, Bell and Carlson (2009) note that “to the extent that a professor or student does not communicate learning goals to the organization, the organization will default to treating them as a volunteer and, in all likelihood, the student will act like a volunteer” (p. 21). However, they also identify some of the reasons that community organizations participate in such initiatives, including the desire to educate students and maintain a relationship with the institution. These examples illustrate the importance of collaboratively delineating the desired outcomes for each party and how they define success and positive impact, as student learning is only one (albeit important) indicator.

The impacts (positive or negative) of a course on other stakeholders—most notably community or business partners, and perhaps academic departments—must also be considered. Scholars have argued that “community” is rarely consulted when defining community impact (*Stoecker & Tryon, 2009*). Determining and/or quantifying these impacts can be challenging, as community-based

organizations themselves may struggle with how to measure, quantify, or articulate their impact or “results” toward achieving their mission (e.g., *Poister, 2003*). Beyond community-based or experiential courses, evaluating program outcomes in general is “extremely rare, if not nonexistent” in business schools (*Pfeffer & Fong, 2002, p. 90*), yet it is essential for understanding the effects, impacts, and consequences of a curriculum.

Resources

- What resources will be required to fulfill the value propositions?
- What are the capabilities and expectations of those involved?

In terms of assessing capabilities and expectations, a good illustration is the sometimes-complex logistics of implementing community-based projects. As we noted at the outset, these types of courses or course components are often more resource intensive than more traditional pedagogies. The demands on each stakeholder—as well as the instructor him/herself—should be carefully considered in order to plan for and leverage sufficient resources to support all parties. Project work can place (often unintended) burdens on the community organization and jeopardize student outcomes, making it critical to collaboratively discuss and define expectations in advance. For example, who will supervise students’ work in the community (will they be supervised?), do they need training (and on what?), and who will evaluate their performance (*Gonzalez & Golden, 2009*)?

This is again similar to the business logic of the entrepreneur who must consider all actions in a closed system where resources are scarce. The educational entrepreneur, like the business entrepreneur, must continually make decisions based on ongoing cost-benefit analysis, but as noted earlier, will be faced with the complexities of analyzing the intangible cost and benefits to internal and external stakeholders. The curriculum innovation canvas can help to navigate this complexity by linking the resources back to the original value propositions. This process uses a logic similar to Kaplan and Norton’s (2001) strategy maps, in which strategy is created by determining which processes need to be enhanced to deliver the value proposition promised to customers. As we noted above, there are likely multiple value propositions, reflecting many stakeholders with different needs, hence the critical function of the canvas for determining what is needed and for which stakeholders. According to Kaplan and Norton, such precision is not only crucial

implementation but is also important for measurement around the effective use of resources.

Constraints

- What are the boundary conditions or parameters within which I must operate (e.g., time, policy, culture, structures)?
- What challenges or considerations do I need to be aware of?
- What are the “givens”?

As we noted at the outset, educational entrepreneurs must operate in the context of organizations that are not typically designed to support new or innovative approaches. Design thinking philosophy often portrays constraints as a source of “challenge and excitement” that provides inspiration for more creative solutions (*Dunne & Martin, 2006*) or as a natural part of the exploration process (*Brown, 2008a*). Regardless of how they are viewed, constraints should be identified, as should “givens” of the circumstances within which a curriculum innovation is being developed—the semester system, for instance, is a given that introduces time constraints that may preclude longer term initiatives. Likewise, related constraints might include the timing of midterm exams, students’ overall workload for the semester and their other time commitments, instructors’ limited time for each student or group, and the existing job and resource demands faced by organizational partners.

Some scholars have argued that in fact *most* organizational entrepreneurs face resource constraints and must learn to “make do with what is at hand” (*Baker & Nelson, 2005, p. 329*). Thus, beyond identifying such constraints, the canvas provides a space to investigate creative means of navigating barriers and boundary conditions, while understanding and innovating within any immovable parameters.

Activities

- What activities are required to fulfill the value propositions to each stakeholder?
- What activities are needed to create collaborations and relationships within the institution and/or with other partners?
- What activities does the operation or implementation of the course require?

The activities portion of the canvas is meant to document what needs to be done to deliver on the value propositions—in other words, the steps required to make the idea a reality or to launch a new course. The curriculum innovation canvas facilitates this process by promoting the dissection of large initiatives into smaller activities, much like goal setting. Articulating small steps toward the end state provides a clearer, more focused view of the future and can be less overwhelming than trying to accomplish radical change (Miller & Wilson, 2006). Our canvas guides the instructor to consider those incremental activities that are needed to fulfill the value propositions and implementation. By targeting the activities as a defined component, the canvas facilitates the creation of “SMART” goals (i.e., specific, measurable, assignable, realistic, time-related; Doran, 1981) and the development of a work plan that helps the instructor articulate what must be done to bring value to various stakeholders. Like the other elements in the canvas that are inherently interconnected, the activities are largely defined by the other blocks, while providing a focus on how to make it all happen. In essence, the instructor must consider “what do I need to do” (activities) in the context of other critical considerations such as “why am I doing this,” “who is involved,” “how will this work,” and “will everyone benefit.”

Discussion

There has been no shortage of scrutiny and criticism leveled at business schools, and calls for business programs to better prepare students as professionals and contributors to society more broadly (e.g., Bennis & O’Toole, 2005; Pfeiffer & Fong, 2002). Educational institutions in general are seen as a means to foster students’ feelings of social responsibility and concern for community (e.g., Kahne & Sporte, 2008). To enhance applied learning and civic engagement, there has been an increasing focus on experiential and community-based teaching and learning practices in many institutions (Barreno et al., 2013; Randall, 2010). Although they offer a multitude of benefits, such pedagogies are arguably more complex to implement than traditional “sage on stage” approaches. Observing the parallel between the entrepreneur and the instructor, we noted that educational entrepreneurs are tasked with creating responsive, relevant, and innovative curriculum within this complex and challenging environment—and to do so, they must understand the needs of multiple stakeholders, attempt to create reciprocal value, and operate within institutional constraints. Thus, we drew from research and practice in entrepreneurship, and leveraged the

mindset of entrepreneurs as they face the task of creating value for customers, in order to create a platform for navigating these challenges.

We developed the curriculum innovation canvas using principles of design thinking, both in our process and in the outcome—that is, we extensively consulted multiple stakeholder groups, created and tested iterative prototypes, and shaped the canvas based on user experimentation and feedback. The canvas guides educators through the process of articulating value propositions for their ideas, building relationships and communication processes with stakeholders, and identifying resources and constraints. Core elements of curriculum, such as content and evaluation, remain essential components but are framed somewhat differently in the context of substantiating the value propositions and cocreation with stakeholders.

Although we located our curriculum innovation canvas largely in the context of business and management education literature, we believe it is equally applicable in nearly any field. This assertion is supported by the fact that the participants in our prototyping process represented many different disciplines (e.g., biology, medicine, agriculture, environmental sustainability), and the aggregate feedback suggested that the canvas was useful, novel, and engaging. The users who experimented with our canvas also represented different stakeholder groups and user roles, including professors, administrators, students, community workers, and curriculum developers. This approach was consistent with our overarching design thinking principles of engaging in human-centered and collaborative cocreation, and also helped us test our innovation for use in different contexts.

Implications for Theory, Research, and Practice

In terms of implications for practice, the process of testing the curriculum innovation canvas was revealing in ways we did not expect. In particular, user experimentation and the creative mindset facilitated by the canvas served to identify several other ways that the tool could be applied. For example, one of our user samples included members of a community-based organization that offers medical students the opportunity to volunteer in a community health clinic—this was an ideal testing ground, given our focus on community-based experiential learning, because the organization's mission included both serving the community and providing an experiential learning opportunity for medical students. This dual

mission had long been creating confusion because medical students, managers, community members, and patients all struggled with understanding the organization's "real" purpose—serving the needs of community clients or medical students? The canvas was immediately seen as a tool that could aid in communicating expectations to both of these groups (an expectations map) and engaging in collective dialogue to ensure value for everyone involved.

The curriculum innovation canvas was also applied in the context of debriefing a completed course as a way of identifying gaps, understanding what worked and what did not, and planning for improvements. The course was a graduate-level "field school" in agricultural sustainability, which was structured as an on-site practicum course in a rural community in cooperation with local residents, farmers, and scientists working in a biosphere reserve. Because it was a team-taught course, the canvas was used by the group of instructors to create common understandings among their team members about what happened, additional stakeholder partnerships and consultations that would be needed, and how to create an action plan for the future. Thus, beyond its original intent for course planning and implementation, the canvas was also successfully used for debriefing and gap analysis.

In terms of further testing, and a valuable avenue for future research, we recommend examining the curriculum innovation canvas in institutional administration. Another idea for application that emerged during the testing process was the possibility of using such a tool university-wide to standardize the application process for new course approvals. The value proposition of the canvas at this level is that administrators can easily understand what a course will look like "on the ground level," the stakeholders involved, and the value to students. Future research could examine challenges that administrators face when reviewing and approving new and/or novel curriculum proposals in particular. A related avenue would be further examination of the canvas as a strategic tool for program-level development—some of our users identified this as an opportunity for creating a new certificate program because the canvas facilitated their thinking about multiple perspectives, identifying resources and sources of support, and even benchmarking against competitors offering similar programs.

With respect to other implications for research and extensions of theory, this article demonstrates the positive potential in applying principles in design thinking to the curriculum development process. Prior research has identified opportunities for applying design thinking within business school curricula—that is,

teaching students how to leverage this type of approach to problem solving and innovation—but we argue that design thinking principles are valuable for instructors and others who are operating as educational entrepreneurs.

Limitations

One user who participated in our prototyping process commented that, because the blocks in the curriculum innovation canvas are somewhat defined, it is possible that other aspects could be missed if they are not included in the existing framework—in other words, someone who relies solely on the elements we described could be vulnerable to blind spots from other factors not considered. Acknowledging that this is a possibility, we feel that—due in large part to the extensive prototyping process and experimentation with many “types” of users—the canvas offers enough breadth and flexibility that users can apply it to their own context and achieve a comprehensive result. Additionally, it is not meant to be exhaustive, and we would be unable to achieve an exact match to every person’s context. Rather, the intention is to provide a tool that facilitates creativity and innovation, and a novel way of thinking about the curriculum development process, as well as guided planning and implementation for the resulting ideas.

Conclusion

The curriculum innovation canvas uniquely bridges principles from entrepreneurial business models and experiential learning to provide a platform for instructors, curriculum developers, and administrators to engage in innovation and implementation of experiential courses or programs—particularly those that involve community or organizational partnerships. By adopting a human-centered, collaborative, and holistic approach from design thinking logic, we have sought to make the canvas stimulate a creative process and ongoing stakeholder engagement that will generate and implement mutually beneficial curriculum innovations in a complex and dynamic context.

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