



# Design Strategy Plus Pandemic Serendipity: Technology-Enhancement in Entrepreneurship Education Using Open Learning

Sonja Johnston   
University of Calgary

Michele Jacobsen   
Werklund School of Education,  
University of Calgary

## Correspondence:

Sonja Johnston  
University of Calgary  
Email: [sonja.johnston \[at\] ucalgary.ca](mailto:sonja.johnston@ucalgary.ca)

## Abstract

In a recent pilot for a redesign of an undergraduate entrepreneurship course, factors for consideration included: materials and resource costs, ability for work-integrated learning, and responding to the contemporary needs of the workplace outside of the post-secondary institution. The utilization of an industry leader's open learning platform and the implementation of micro-credential certificates supported students' learning experiences that bridged theory to experience and work-integrated learning. The use of multiple credentials (in addition to course grading) provided additional dimensions of learning and experience. This redesign was developed through 2019 and launched in January prior to the impact of the COVID-19 pandemic on the 2020 winter semester. The intentional strategy in this course design was to build student competencies through theory and content, developing an application with micro-credential certificates, and utilizing work-integrated learning with students creating an ecommerce website to service an existing business or start-up plan. Serendipitously, as businesses and the ecommerce platform were forced to quickly adjust in response to the impacts of the pandemic, undergraduate students were able to learn and design in authentic circumstances and applications. Critical questions are raised concerning equitable access to technology and the reciprocity of gains in the open learning platform between students, institutions, and profitable businesses.

**Keywords:** work-integrated learning, open learning, entrepreneurship education, post-secondary, course design



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

## **Introduction**

As a priority institutional pillar, work-integrated learning (WIL) is “the intersection and engagement of theoretical and practice learning. The process of bringing together formal learning and productive work, or theory and practice.” (Cooper et al., 2010, p. xiii). WIL is a growing focus in higher education, especially as government funding decisions gravitate towards performance-based metrics that heavily weigh on WIL experiences for students.

The creation of post-secondary learning designs that feature industry-relevant skills and experiences are impacted by considerations such as: materials and resource costs, evolving business needs, diverse instructor expertise and capacity, and ever-changing student mindsets and interest for entrepreneurial ventures. In this paper, we offer insights gained through a pilot redesign of an undergraduate business course in entrepreneurship and small business management as a case study of learning and experience with a successful design strategy combined with serendipitous positioning through the pandemic.

## **Signature Pedagogies in Entrepreneurial Education**

Stemming from Lee Shulman’s (2005) seminal notion of signature pedagogies “to highlight characteristic forms of teaching that are distinctly associated with various professions” (Jones, 2019), a growing number of researchers are examining effective pedagogical practices and experiences within entrepreneurship education (EE) (Fayolle et al., 2016; Jones, 2019). Neck and Corbett (2018) argue that “EE research is not advancing as fast as general entrepreneurship because it is not subject to the same level of scholarship” (p.8). In the absence of a dominant or signature pedagogy, entrepreneurial educators rely on defining emerging themes of entrepreneurship (Gartner, 1990), developing entrepreneurial competencies in students (Morris et al., 2013), and identifying the nature of entrepreneurial opportunities (Leger-Jarniou & Tegtmeir, 2017) often through iterative practice and influence through accreditation bodies such as the Association to Advance Collegiate Schools of Business (AACSB). Although this content is emerging in EE, the research on signature pedagogies from across disciplines can inform entrepreneurship educators such as: e-learning in higher education (Eaton et al., 2017), professional graduate education (Friesen & Jacobsen, 2021), and undergraduate leadership education (Jenkins, 2012).

There is growing evidence of research and exploration into the business classroom and interest in the impact of entrepreneurial education. The Association to Advance Collegiate Schools of Business (AACSB) heavily influences the priorities of business education around the globe. The most recent collective vision statement positions five pillars of focus, including: 1) catalysts for innovation, 2) co-creators of knowledge, 3) hubs of lifelong learning, 4) leaders on leadership, and 5) enablers of global prosperity (AACSB, 2019). From a systematic review of how pedagogy has evolved in entrepreneurial education, Hägg and Gabrielsson (2020) indicate the “emphasis in research has changed over the past decades from teacher-guided instruction models to more constructivist perspectives on entrepreneurial education” (Gabrielsson et al., 2020, p. 1063). They argue further that “contemporary discussions can to a larger extent be characterized as centered around the theoretical and philosophical foundations of experience-based learning” (p. 1063). Contextualized within this growing focus on developing and proposing signature pedagogies in EE, including most recently, research from Peschl et al (2020) utilizing entrepreneurial thinking and a model of seven competencies presented as

essential and teachable skills, is the current case study of the redesign of an EE course in one business education program.

## Experiential Learning

Tomkins and Ulus (2016) examine how experiential learning (EL) is considered a mainstream approach to management education in their university context. Disciplines, such as business, and especially entrepreneurial education, have gravitated towards 'student-centred' approaches of which EL is one (Kirschner et al., 2006). A common theoretical influence on experiential learning in this body of literatures stems from Kolb's experiential learning cycle (Kolb, 1984). Beard and Wilson (2006) suggest that Kolb's learning cycle has reached an almost 'taken for granted' status. EL is an integrated and holistic perspective that combines experience, perception, cognition, and behaviour (Kolb & Kolb, 2017). EE is trending towards a practice of experimentation, design thinking (IDEO, 2022), student business start-ups, live cases, and simulations connected to the real world (Kassean et al., 2017). As one navigates the emerging research, a muddling of interchangeable terminology is observed, with some researchers separating by nuance or lineage into applied learning, experiential learning, and project-based learning (Rottmann & Rabidoux, 2017) lines of inquiry. Institutional variances between applied and experiential learning (as experienced by the authors) appear to position applied learning as participatory activity in the classroom that exposes students to problems *from* business (activities informed by business contexts), and experiential learning engaging students with problems by carrying out the actions and experiencing the results in authentic contexts beyond the classroom (actions *in* business contexts). Work-integrated learning, as reflected by funding considerations (at the provincial government level) and institutional priorities for student experiences, align with authentic contexts of action *in* business contexts. These considerations regarding student experiences become fundamental when considering course design elements.

## Course Design Considerations

The entrepreneurship course described in this case study is offered within a School of Business at a publicly funded polytechnic institution providing bachelor's degrees, applied bachelor's degrees, diplomas, certificates, and apprenticeship programs. This three-credit course is offered within the Bachelor of Business Administration degree (BBA), Business Administration Diploma (BA), and several certificates. The course is also offered in three modalities: on-campus face-to-face, online synchronous, and distance education as an online asynchronous option. Most faculty instructors are recruited for their industry expertise and the course curriculum is created, curated, and distributed via a consistent course package of content through the learning management system (D2L Brightspace). Each semester runs for 15 weeks and synchronous meetings as a class (on-campus face-to-face or online virtual) gather three or four hours per week (program dependent).

In the first few weeks of the course, there is often a substantial movement of students prior to the add or drop deadline. The utilization of a publisher's textbook has provided a large amount of content support to instructors and students. This course textbook has a software platform that provides students with many supports to effectively catch up to the rest of the course. These textbook tools also allow for text translations in additional languages and to scaffold diverse learning needs. The textbook and publisher materials are integrated directly into the learning management system to permit students an ease of access as well as the option of offline reading. Given the course text combined with technological tools, instructors focus class

meeting times on highlighting relevant contemporary issues, invited guest speakers, and whole and small group class activities to help students to synthesize content.

Prior to this pilot, the applied learning component of this course was a student generated business plan for a fictional or derived start-up entrepreneurial venture. Although this learning task had content value, the challenge was that the business plans were informed by the textbook and classroom learning versus any immersion in an authentic context or with industry experts. Individually produced written reports for summative assessment by the instructor offered no opportunity for consultation with industry, and no iteration, prototyping, or validation of the ideas proposed in the business plan. A serendipitous opportunity to partner with industry emerged at the Society for Teaching and Learning in Higher Education (STLHE) 2019 Conference. Polina Buchan, a professor of marketing at St. Lawrence College, presented outcomes of a collaborative partnership initiative they engaged in with Shopify (Canadian publicly traded ecommerce company) to create an Open Learning Platform (Shopify Open Learning, 2022) and to co-create a badging process. Buchan's invitation to reach out to Shopify was taken up by the first author to explore whether a similar connection between campus and industry could work for student learning in the entrepreneurship course.

The premise of the Shopify Open Learning program is that post-secondary instructors can enroll to integrate the platform into the course curriculum. The collaboration between Shopify Open Learning and the post-secondary instructor allows students in the course to create a free ecommerce store with a functional checkout. Shopify offers optional digital badges for achievement recognition, curated content, tools, resources, student support, and a dedicated personal support for educators.

For the January 2020 pilot, the instructor (first author) used the Open Learning platform within the Entrepreneurship course as a customer experience and integrated marketing visual to explore the alignment of components from the written business plan. This course was offered on-campus. Given the affordances of the platform, students were observed taking the initiative to go back to their business plans and iteratively strengthening and expanding their assignment as they built their Shopify store. Students revised their business plans by iterating elements such as inventory considerations, supply chain opportunities, pricing structures, customer targets, and alignment of business considerations to create a stronger user experience!

### **Design Strategy Plus Pandemic Serendipity**

On Monday, March 16, 2020, the post-secondary institution in this case study suspended classes at all campuses for three days to move completely online for the remaining weeks of the semester. By this point in the semester, the textbook-based coursework had been completed and coaching sessions to support student efforts to design business plans and Shopify stores had begun. The serendipitous design strategy at the time of the pandemic shutdown permitted the entrepreneurship courses to continue seamlessly once communication to students was made about online virtual classroom logistics. Although students, staff, and faculty were navigating the extreme challenges of the first wave of the global pandemic, the intentional and planned use of the technology within this course design meant that students were prepared for the requirements and assignments in this course. All students were able to successfully complete the course in Winter 2020.

The course design for this pilot was utilized again in Spring 2020 for the next course offering. This course was offered online in a synchronous modality. Student wellbeing and community building in the virtual classroom was an intentional focus by the instructor and was implemented through intentional activities and sharing circles in breakout rooms. High attendance and engagement of the students was observed by the instructor. As the course progressed, the global crisis was growing, and an increasing number of businesses and business sectors were being shut down and altered in ways previously unimaginable. Businesses were forced to pivot, innovate, and change – this was the topic of remarks by Bozkir, President of the 75<sup>th</sup> session of the United Nations General Assembly (UN, 2021) on developmental challenges of COVID-19 and the role e-commerce and digital trade could play. As the environment in the business landscape changed, Shopify was forced to adapt and grow the tools, capabilities, and functions for the ecommerce platform. Service-based industries required the ability to conduct business at a distance and expand the considerations for e-commerce. As the Shopify platform adapted to the evolving demands of the business environment, the entrepreneurship students were designing their stores in the most current version of the technology available (through this platform). Students were seeing the industry-based environment evolve and respond to demands of clients and store owners in real time as they engaged in their post-secondary business education and lived experiences.

This platform is made available to any post-secondary institution as a non-prescriptive program that allows students and instructors a free store with a functioning checkout integrated into a course based on the interest of the instructor (Shopify, 2022). The optional digital badge (micro-credential) can be implemented as-is or can be customized to an instructor's particular needs. Shopify has dedicated specialists and advisors to support this program. The open learning component of this platform refers to the variety of choices for which the platform can be utilized to support course-based learning without an expense to the institution, instructor, or student). Feedback can be provided from the institutional users back to Shopify to offer insights regarding challenges, needs, or curiosities raised through the experience of use.

The opportunities for open educational resources in business and entrepreneurship education is growing and is met with the pragmatic challenge institutionally of resourcing time for content curation, maintenance, and support. In addition, signature pedagogies in EE lean into experiences that are informed by experiential learning theory (Kolb & Kolb, 2017) and incorporate high-impact educational practices (Kuh, 2008). Kuh (2008) identified that these high impact practices could include many ways in which field-based experiential learning could occur. An example of the current focus of governments and institutions that highlights work-integrated learning (WIL) is found at SAIT, which defines WIL as “activities that integrate academic learning in a SAIT program or course with practical applications in a real-world setting” (SAIT, 2019). This focus provides an environment for both working in industry (with Shopify) and with a start-up or existing business for the ecommerce experience. The ability to utilize Shopify's open learning platform with adaptive flexibility is only limited to internet access and a brief time commitment from instructors to request access (creating a student access link), followed by investment in becoming familiar with the instructional resources provided for decisions to use as is or adapt to the needs of the course, context, and instructor.

We continue to examine, explore, and collaborate on ways to improve learning design and student experience, and expand insights on signature pedagogies in business and entrepreneurship education. We share our design context, decisions, and learnings with the

goal of informing and inspiring the practices of instructors and educators across disciplines in higher education.

### **Author's Contributions**

As a doctoral student, SJ selected this course design pilot as the subject matter of analysis for a case study methodology course with MJ. Through MJ's mentorship and supervision, SJ developed this case study as a scholarly activity and a sustained reflection on practice. SJ is a course lead and instructor of entrepreneurship and was responsible for the proposal, design, and implementation of this course pilot. MJ taught, mentored, and supervised SJ through this scholarly work and collaborated on the presentation for OTESSA 2022 and the development of this paper for the conference proceedings.

### **Open Researcher and Contributor Identifier (ORCID)**

Sonja Johnston  <https://orcid.org/0000-0002-6073-4861>

Michele Jacobsen  <https://orcid.org/0000-0002-0639-7606>

### **Ethics Statement**

Ethics review was not applicable as the case study involves the course design and reflections on practice. No data was collected from human participants. The authors are sharing practice-based insights and reflections on practice to improve business education pedagogy and course design.

### **Conflict of Interest**

The authors do not declare any conflict of interest. The Open Learning program is accessible to all interested post-secondary educators and use by students is at no cost. The authors have no relationship with Shopify outside of the use of the program.

### **Acknowledgement**

The Shopify Open Learning program was introduced to us through the work presented by colleagues from St. Lawrence College (Polina Buchan, Pam Bovey Armstrong) who co-created the Badge Program with Shopify. Polina Buchan sharing the invitation to explore the Shopify Open Learning program was the source of inspiration for this integration.

The institutional team of instructors and academic chairs that support these initiatives, pilots, and design implementations are who make this iterative process successful.

Therese Kirrane, Senior Social Impact Lead, Open Learning at Shopify was instrumental during the process that this program was implemented into this course. Many Shopify Open Learning Specialists have also supported this initiative.

### **References**

AACSB. (2019) *Collective vision for business education*. <https://www.aacsb.edu/>

- Beard, C., & Wilson, J. P. (2006). *Experiential learning: A best practice handbook for educators and trainers*. Kogan Page.
- Eaton, S. E., Brown, B., Schroeder, M., Lock, J., & Jacobsen, M. (2017). *Signature pedagogies for elearning in higher education and beyond*. University of Calgary. <http://dx.doi.org/10.11575/PRISM/31647>
- Fayolle, A., Verzat, C., & Wapshott, R. (2016). In quest of legitimacy: the theoretical and methodological foundations of entrepreneurship education research. *International Small Business Journal*, 34(7), 895-904. <https://doi.org/10.1177/0266242616649250>
- Friesen, S., & Jacobsen, M. (2021). Collaborative design of professional graduate programs in education. *International Journal of Designs for Learning*, 12(1), pp. 64-76. <https://doi.org/10.14434/ijdl.v12i1.25778>
- Gabrielsson, J., Hagg G., Landstrom, H., & Politis, D. (2020). Connecting the past with the present: the development of research on pedagogy in entrepreneurial education. *Education + Training*, 63(9), 1061-1086. <https://doi.org/10.1108/ET-11-2019-0265>
- Gartner, W. B. (1990). What are we talking about when we talk about entrepreneurship? *Journal of Business Venturing*, 5(1), 15–28.
- Hägg, G., & Gabrielsson, J. (2020). A systematic literature review of the evolution of pedagogy in entrepreneurial education research. *International Journal of Entrepreneurial Behavior and Research*, 3(2), 129-153. <https://doi.org/10.1108/IJEBr-04-2018-0272>
- IDEOU. (2022). *Design Thinking Online Courses*. <https://www.ideo.com/collections/design-thinking-courses>
- Jenkins, D. M. (2012). Exploring signature pedagogies in undergraduate leadership education. *Journal of Leadership Education*, 11(1), 1-27. [https://journalofleadershiped.org/wp-content/uploads/2019/02/11\\_1\\_Jenkins.pdf](https://journalofleadershiped.org/wp-content/uploads/2019/02/11_1_Jenkins.pdf)
- Jones, C. (2019). A signature pedagogy for entrepreneurship education. *Journal of Small Business and Enterprise Development*, 26(2), 243-254. <https://doi.org/10.1108/JSBED-03-2018-0080>
- Kassean, H., Vanevenhoven, J., Liguori, E., & Winkel, D.E. (2015). Entrepreneurship education: A need for reflection, real-world experience and action. *International Journal of Entrepreneurial Behavior & Research*, 21(5), 690-708. <https://doi.org/10.1108/IJEBr-07-2014-0123>
- Kirschner, P. A., Sweller, J., & Clark, R. E. (2006). Why minimal guidance during instruction does not work: An analysis of the failure of constructivist, discover, problem-based, experiential and inquiry-based teaching. *Educational Psychologist*, 41(2), 75-86. [https://doi.org/10.1207/s15326985ep4102\\_1](https://doi.org/10.1207/s15326985ep4102_1)
- Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development*. Prentice-Hall.
- Kolb, A.Y., & Kolb, D.A. (2017). Experiential learning theory as a guide for experiential education in higher education. *Experiential Learning & Teaching in Higher Education*, 1(1), 7-44. <https://nsuworks.nova.edu/elthe/vol1/iss1/7>
- Kuh, G. D. (2008). High-Impact educational practices: What they are, who has access to them, and why they matter. *Association of American Colleges and Universities*. <https://www.aacu.org/publication/high-impact-educational-practices-what-they-are-who-has-access-to-them-and-why-they-matter>
- Leger-Jarniou, C., & Tegtmeier, S. (2017). Introduction: Reopening the debate – A Delphi panel of the leading scholars in research on entrepreneurial opportunities. In C. Leger-Jarniou & S. Tegtmeier (Eds.), *Research handbook on entrepreneurial opportunities* (pp. 1–42). Edward Elgar Publishing.

- Morris, M. H., Webb, J. W., Fu, J., & Singhal, S. (2013). A competency-based perspective on entrepreneurship education: Conceptual and empirical insights. *Journal of Small Business Management*, 51(3), 352–369. <https://doi.org/10.1111/jsbm.12023>
- Neck, H. M., & Corbett, A. C. (2018). The scholarship of teaching and learning entrepreneurship. *Entrepreneurship Education and Pedagogy*, 1(1) 8–41. <https://doi.org/10.1177/2515127417737286>
- Peschl, H., Deng, C., & Larson, N. (2020). Entrepreneurial thinking: A signature pedagogy for an uncertain 21st century. *The International Journal of Management Education*, 19(1). <https://doi.org/10.1016/j.ijme.2020.100427>
- Rottmann, A., & Rabidoux, S. (31 May 2017). Learning by doing. *Inside Higher Ed*. <https://www.insidehighered.com/digital-learning/views/2017/05/31/3-examples-online-applied-learning>
- SAIT. (2019). *AC 2.20.1 Work-integrated learning policies and procedures*. <https://www.sait.ca/assets/documents/about-sait/policies-and-procedures/academic-student/ac-2-20-1-work-integrated-learning.pdf>
- Shopify. (2022). *Shopify Open Learning*. <https://open-learning-resources.myshopify.com/>
- Shulman, L. (2005). Signature pedagogies in the professions, *Daedalus*, 134(3), 52-59. <https://www.jstor.org/stable/20027998>
- Tomkins, L., & Ulus, E. (2016). ‘Oh, was that “experiential learning”?!’ Spaces, synergies and surprises with Kolb’s learning cycle. *Management Learning*, 47(2), 158-178. <https://doi.org/10.1177/1350507615587451>
- UN. (2021). *Development challenges of COVID-19: What role can e-commerce and digital trade play: Remarks by H.E. Mr. Volkan Bozkir, President of the 75th session of the United Nations General Assembly, 12-March-2021*. <https://www.un.org/pga/75/2021/03/12/development-challenges-of-covid-19-what-role-can-e-commerce-and-digital-trade-play/>