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## Digital transformation of higher education through disruptive pedagogies: Wrapping a course around a course to promote learner agency

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### Abstract

Today's professionals are increasingly seeking learning opportunities to augment their skills and strengthen their resumes. As a result, there has been an increase in the demand for, and acceptance of, digital credentials by employers across all industries. This creates an opportunity for colleges and universities to create innovative pathways for granting academic credit to external digital credentials. In addition to embracing *disruptive technologies*, the digital transformation of higher education also necessitates the investigation of *disruptive pedagogies*—teaching methods and practices that challenge the status quo—to prepare their graduates to enter the workforce ready and equipped to hit the job running. This article describes a potentially disruptive pedagogy whereby students in an online graduate course are able to engage in a self-directed learning opportunity that promotes learner agency and enhances professional knowledge through the pursuit of an external digital credential in a topic or subject of their choice. An overview of the status of digital credentialing in professional and higher education settings, as well as the results of a survey where students weighed in on the perceived value of their personalized, self-directed learning experience are also presented.

**Keywords:** Elearning, Educational Technology, Digital Transformation, Disruptive Pedagogy, Higher Education, Learner Agency

### Introduction

The proclamation of COVID-19 as a global pandemic on March 11, 2020 triggered the abrupt closure of educational institutions around the world and accelerated the adoption of educational technologies and innovative instructional strategies for blended and online learning in K-12 and higher education. The rippling effects of the pandemic also ushered in an urgent need to reskill and upskill today's workforce to adapt to a more fluid, technological, and remote work environment, prompting an increase and acceptance of digital credentials by employers across all industries. The rapid uptick in alternative credentialing, fueling the work-from-home (WFH) revolution, creates a potential threat or opportunity for colleges and universities that can either choose to cede the professional development and credential awarding spaces to for-profit, non-academic organizations, or capitalize on it by creating innovative pathways for granting academic credit to external digital credentials. One way universities can mitigate the threat and capitalize on the opportunity is by wrapping existing university courses around professional, non-credit, digital credential programs, allowing students to engage in self-directed learning opportunities to enhance their professional knowledge and skills. Lynch (2019) noted, "because of the way they connect the workplace with education, digital credentials are poised to have a profound impact on the way students plan their

futures both in and outside of the classroom” (para. 4). This article describes a potentially disruptive pedagogy whereby students in an online graduate course are able to engage in a self-directed learning opportunity that promotes learner agency and enhances professional knowledge through the pursuit of an external digital credential in a topic or subject of their choice. In this context, we define a *disruptive pedagogy* as a teaching method or practice that challenges the status quo to create individualized learning opportunities that align with students’ profiles. An overview of the status of digital credentialing in professional and higher education settings, as well as the results of a survey where students weighed in on the perceived value of their personalized, self-directed learning experience are also presented.

According to Kato, et al., (2020), the 3 most common types of digital credentials (certificates, digital badges, and micro-credentials) are similar to paper certificates awarded for skills and knowledge mastered, except they are issued electronically, allowing learners to showcase them in their electronic portfolios and social networking and professional sites, such as LinkedIn. Digital credentials are a type of alternate credential that serve as a “graphical representation of a person’s abilities and competencies, combined with a verifiable description of the knowledge and activities it took to earn it” (Credly, n.d. para. 1). The benefits of digital credentials include creating alternatives for developing additional career skills, as well as ways to demonstrate acquired knowledge/skills and achievements in ways that are cost and time effective (Ghasia et al., 2019). While most digital credentials earned outside of formal educational programs do not count toward academic credit or degrees, they are becoming more accepted as a way to enhance workers’ professional resumes and workplace skills. According to Credley (n.d.), jobs at all levels are becoming more competitive, as “increasingly, employers rely on tangible evidence of competence rather than individual college courses completed” (Matkin, 2017, para. 1). Today, digital credentials are an easy way to showcase skills and knowledge gained through professional development and informal learning programs. In addition, according to Lynch (2019), they provide ways for learners to personalize their learning, and upskilling can happen quickly, as they “can be completed anytime, anywhere” (BizLibrary, n.d., How to Reskill Your Employees, para. 6).

When integrated into higher education, Ghasia et al. (2019) note that digital credentials offer learners “the possibility to enhance skills, to manage career pathways as well as adding practicality in the academic content” (Abstract, para. 1). Accordingly, this also affords higher education institutions an opportunity to tap into different areas of potential enrollment, as “the landscape of post-secondary education is changing with the emergence of new credentials that are engaging millions of learners” (Kato et al., 2020). As a result, new markets are ripe with opportunities for recruiting prospective students as the need increases for workers in all industries to *upscale* (add to their skills for their current responsibilities), and *reskill* (learn new skills for a different role or responsibilities). As All Campus (2021, para. 7) observes, “to take advantage of upskilling’s potential, it will be important to rethink what formal education looks like.” They add, “...flexible and varied program offerings will become increasingly important differentiating factors as prospects are deciding where to study” (para. 7).

### **Wrapping a Course Around a Course to Promote Learner Agency: A Potentially Disruptive Technology**

To capitalize on the upskilling and reskilling revolution that is currently taking place outside of higher education, the faculty of a fully online graduate Educational Technology program wrapped an existing university course around a non-credit digital credentialing opportunity to enable students to seize the best of both worlds and earn important, career-relevant, non-credit credentials, while simultaneously earning a college degree. This potentially disruptive pedagogy promotes learner agency and empowers students enrolled in academic programs to pursue credentials that are relevant to their educational and professional goals but exist outside of formal education channels. This exercise bridges self-directed learning theory with digitally transformative online technologies and methods to help students, to not only develop skills

based on their educational and professional goals, but also to earn digital credentials to make them more competitive and marketable in their current or future employment. According to Garland (2017), “self-directed learning is an instructional strategy where the students, with guidance from the teacher, decide what and how they will learn” (para. 2). Learner agency takes self-directed learning a step further, emphasizing the role of the learner in the real world, beyond the learning environment (OECD, 2018). The self-directed learning opportunity described in this paper affords students opportunities to “frame a guiding purpose and identify actions to achieve a goal” (OECD, 2018, p. 4), which is one of the primary skills of learner agency. Thus, wrapping an academic course around a credential-awarding learning opportunity is an effective way to help students develop relevant workplace skills, while exercising agency over their own learning.

Students enrolled in a 7-week, fully online graduate course explored a variety of learning experiences, approaches, and strategies intended “to address the distinct learning needs, interests, aspirations, and/or cultural backgrounds of individuals or groups of learners” (EdGlossary, 2015, para. 1). Through the course, students learned about student-centered learning strategies and mapped out a personalized professional development plan based on identified professional needs or opportunities for advancement in their places of work. One of the major deliverables of the course, a project titled, *The Self-Directed Learning Opportunity*, engaged students in a self-directed learning experience designed to enhance their professional knowledge and credentials as educational technology professionals who are ready and equipped to tackle the challenges they will face on the job. It also enabled them to customize their learning to achieve educational and professional goals.

The project was broken up into 2 parts: (1) a self-directed learning plan where students identified a professional learning need and selected an external learning opportunity that culminated in the earning of a certificate or credential; and (2) a video documenting the self-directed learning journey, where students described, reflected on, and evaluated their learning goals and progress through their chosen unit of study. To complete the self-directed learning journey, students proceeded through a 4-step process delineated by the University of Waterloo’s Centre for Teaching Excellence (2020), where they: assessed their readiness to learn; set learning goals and a timeline; engaged in the learning process; and evaluated their learning. As there are many free or low-cost certification/credentialing programs available online, students and instructors negotiated the focus and scope of the external learning experience to ensure it was relevant to their learning goals, affordable, and that all, or part of the journey could be completed within the 7-week course schedule. To assess students’ perceptions regarding the value and quality of the self-directed learning experience, students were asked to reflect on their learning journeys through four interrelated pillars of quality in online education (Online Learning Consortium, n.d.).

### **Student Perceptions of the Disruptive Pedagogy**

The Online Learning Consortium’s (n.d.) five *Pillars of Quality Online Education* framework is described in the following section to demonstrate how the proposed disruptive pedagogy addresses high quality online learning. The framework addresses: (1) learning effectiveness, (2) scale; (3) access, (4) faculty satisfaction, and (5) student satisfaction. Two sources were used to collect the data: students’ self-reflections from their project narratives, and a student survey that was conducted in Spring 2022.

#### **Learning Effectiveness.**

According to the Online Learning Consortium (n.d.), this pillar challenges instructors and course designers to capitalize on the distinctiveness of online learning to ensure students receive a high-quality learning experience. The disruptive pedagogy of wrapping a university course around an external digital credential

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targets several of the elements of this pillar, including *course design*, *learning resources*, *pedagogy*, *assessment*, and *learning outcomes* (Online Learning Consortium, n.d., para. 2). During the pandemic, an increased number of students chose to earn credentials to prepare them to teach and work in remote and distributed environments. As one student reflected, the self-directed learning opportunity “was both educational and practical... It was an education within an education.” The following testimonials were gleaned from students’ self-directed learning journey narratives. They reflect how this disruptive pedagogy impacted their education within, and beyond, the institution’s classrooms.

*The ability to earn a certification while working on the course work is brilliant. I appreciated the opportunity to expand my knowledge and impact my teaching.*

*It’s one thing to say you’re a teacher who puts her students at the center of their own learning, but it’s an entirely different thing to be the student in her own self-directed, student-centered journey. I learned so much about myself as a student... [T]his experience will help me to create lessons for my students in the future.*

*Given the uncertainty of how we’ll return to school this fall, teachers are having to learn skills and methods that involve online teaching. Being able to assist them to transition to online teaching was a true evaluation of what I learned.*

*It felt really great to submit the professional certificates to my district and add those badges to my portfolio.*

*Completing the self-directed learning opportunity challenged me to question my role as a teacher and pushed me to create class activities where I served as a guide, not an instructor.*

*For my self-directed learning experience, I earned the Google Certified Educator Level 1 and Level 2 Certifications... This experience taught me how to become more proficient with Google tools and explore how to better implement them in the classroom.*

*Through the self-directed learning opportunity, I earned my Google Certified Educator Level 1 Certification. This certification taught me how to integrate Google tools into my lessons and prepared me to transition my classes to fully online instruction during the pandemic.*

### Scale.

This pillar “enables institutions to offer their best educational value to learners and to achieve capacity enrollment” (Online Learning Consortium, n.d., The Scale Pillar, para. 1). In terms of educational value, the opportunity to engage in a self-directed learning experience that enables students to earn important, career-relevant credentials, while simultaneously earning a college degree, is both *cost-saving* for the institution and an *added value* to students, two of several components that support this pillar (Online Learning Consortium, n.d.). Offering students the opportunity to earn professional credentials and skills for the same cost and time invested in their university courses, also allows institutions of higher education to address the enrollment management aspect of this pillar to increase enrollment by marketing this added value to prospective students. Furthermore, because the credential awarding organizations exist outside of the university, it allows program faculty to manage the limited personal and technological resources on campus more efficiently.

To assess their perceptions of the scalability of the disruptive pedagogy, students were asked to reflect on the *educational value* from the self-directed learning journey. As one student observed, “I am always

seeking courses that will help me in my formal and informal learning to help add value to what I do at work and what I do outside of work..." adding that an unexpected benefit was "the recognition by the community and the ability to network and connect and present locally, nationally, or globally." Another student agreed, noting, "it could bolster business ties with a local community and provide more job opportunities in higher education." Additionally, a student found value in being exposed to different ways of online learning delivery, which she noted, added to her repertoire of design styles as an educational technologist. She shared, "one of the greatest values I gained from the experience was that I got to experience a type of online learning outside of a traditional education setting...This gave me some insight into different ways of online learning." Other students found value added for the leadership aspects of their work, sharing, "the value I gained from this learning experience was significant in terms of enhancing productivity, management, collaboration, and new methods of implementing instruction." In short, the students' perspectives reveal that this disruptive pedagogy leverages the *effective practice of scale* to make better use of limited educational resources, time, and effort, while offering extended learning opportunities to students.

**Access.** The third pillar "provides the means for all qualified, motivated students to complete courses, degrees, or programs in their disciplines of choice" (Online Learning Consortium, n.d., Access, para. 1). This disruptive pedagogy provides a way for students to pursue credentials that are relevant to their educational and professional goals but exist outside of formal education channels. There are many free or low-cost certification/credentialing programs available online. Examples of the digital certifications the students earned at little or no cost to them, included, *Apple Teacher*, *Microsoft Innovative Educator*, *Microsoft Certified Educator*, *Google Certified Educator Levels 1 or 2*, *Learn to Code through Code.org*, *Creating Maker Spaces*, *UX Fundamentals*, *Ensuring Web Content Accessibility*, and *Visionary Leadership for Technology*. The digital credentials students can earn through the self-directed learning opportunity are designed to improve access to education by expanding opportunities and reducing barriers to key learning experiences that exist outside of formal educational contexts. In addition, through this disruptive pedagogy, students get to practice *learner agency* by deciding what and how they will learn.

The fourth Online Learning Consortium (n.d.) pillar, **Faculty Satisfaction**, deals with the personal factors that contribute to faculty's sense of fulfillment regarding their work. The experiences of faculty who teach the course with the self-directed learning opportunity have been described as personally rewarding and valuable. As one faculty member who teaches the course put it:

[I] enjoy teaching the course because my interaction with the students is a robust dialogue of working through what will benefit them the most in achieving both their academic and career goals. The experience has been personally rewarding and professionally beneficial. I like that it helps them to learn time management and to set personal learning goals, two essential educational and professional skills they may not have experienced previously. The self-directed learning opportunity is a learning journey unlike any other.

Not only are faculty finding the learning experience personally rewarding, but the project has also positively impacted the student course evaluations faculty receive. Several students took the time to write comments on the instructor's course evaluations, sharing, "this was my favorite class so far and I genuinely enjoyed the self-directed learning experience!" and, "I thoroughly enjoyed the self-directed learning assignment from [this course]... This project stands out to me because of the freedom we had to learn a new skill and get certified in that skill." The course evaluation results also reinforced the other pillars of access, learning effectiveness, and scale, as students observed, "this self-directed learning experience gave me the opportunity to brush up my HTML and CSS skills. The timing for that...training was incredible. It matched my job skills needs," and, "I learned so much through the self-directed learning project. Plus, I have an awesome new Google Badge to show for it."

**Student Satisfaction.** According to the Online Learning Consortium, (n.d.), the fifth pillar “reflects on the effectiveness of all aspects of the educational experience” (para. 1). The self-directed learning opportunity provided students with options that were “responsive, timely, and personalized” (Online Learning Consortium, n.d., Student Satisfaction, para. 1). To assess students’ satisfaction regarding this disruptive pedagogy, students were asked to reflect on their level of satisfaction with the learning experience and the digital credentials they earned. Several students noted:

*I earned 4 badges while taking courses at [the university]. These badges provided me with a sense of pride and accomplishment and were important in maintaining my motivation in my online courses.*

*[T]he most rewarding credential I earned was the Microsoft Innovative Educator. This credential allowed me to use the resources from the training and directly transfer them into the classroom and my personal life.*

*Since completing these badges, I have become one of the ‘Tech Gurus’ in my building. I enjoy being able to help my colleagues when they need assistance in certain programs.*

*After completing my Apple Teacher Certification, I felt accomplished and would help colleagues in skills that I had learned through this certification... This year I became the campus technologist for my campus, and I love that I’m able to use my knowledge to help out our staff in anything related to technology.*

*I earned the Google Level 1 and Level 2 and Apple Teacher certifications. Then the pandemic hit. By having these badges under my belt, I immediately became the go-to technology guy on my campus.*

*[Through the] self-directed learning experience, I opted for a course on Game Development... In addition to a certificate of completion, I gained a ton of useful experience in building games, which I am using while creating games for the online learning tools I am building.*

*One of the greatest values from the experience was the fact that I got to experience a type of online learning outside of a traditional education setting like a college course. This gave me some insight into different ways of online learning.*

### Summary & Next Steps

In line with the theme of *digital transformation and disruptive technologies*, this paper proposed the digital transformation of higher education through the exploration of *disruptive pedagogies*, which we defined as teaching methods or practices that challenged the status quo to create individualized learning opportunities that more closely aligned with students’ profiles. This article described a potentially disruptive pedagogy whereby students in an online graduate course were able to engage in a self-directed learning opportunity that promoted learner agency and enhanced their professional knowledge through the pursuit of an external digital credential in a topic or subject of their choice.

Building upon the advancements in online learning and technology adoption triggered and accelerated by the COVID-19 pandemic, institutions of higher education are presented with an unprecedented opportunity to investigate and experiment with disruptive pedagogies for reskilling and upskilling today’s workforce. According to BrightSpot (2020), digital transformations do not wait.

Consumer and online behavior is changing faster than many of today’s organizations can keep pace. What’s more, people are not waiting for organizations and publishers to catch up: they are finding

new options and engaging with new businesses based on who's already successfully digitally transformed and can meet their needs online (p. 3).

Yet, the surge in alternative credentialing fueling the work-from-home (WFH) revolution creates an opportunity for colleges and universities to create innovative pathways for granting academic credit to external digital credentials.

To assess students' perceptions regarding the value and quality of the self-directed learning experience, students were asked to reflect on their learning journeys through a framework of five, interrelated pillars of quality in online education: "learning effectiveness, access, faculty satisfaction, scale, and student satisfaction" (Online Learning Consortium, n.d., para. 1). Based on the self-reflections from their project narratives and survey responses, students overwhelmingly found value in the self-directed learning journey and the credentials they earned.

These initial findings support Mills' (1997, as cited in Manokore & McRae, 2021) assertion that "disruptive pedagogies challenge the assumption in education about what traditional classrooms look like" (p. 45). Yet, as Chakroun and Keevy (2018) predicted a full two years before the start of the pandemic, we are standing "on the brink of revolutionary change," but "the higher education system is not ready to take on these changes" (p. 9). Looking ahead to the future, one question remains, is the higher education system now, a full four years later, ready to capitalize on the changes precipitated by digital transformations and disruptive technologies happening in other organizations, or will they remain static and cede the professional development and credential awarding spaces to for-profit, non-academic organizations.

As we continue to experiment with and increase the scalability of the proposed disruptive pedagogy throughout our program offerings, we have already begun to investigate students' return on investment (ROI) for the learning experience through the four levels of the Kirkpatrick Model of Evaluation (n.d.). Future publications will assess the value of the learning experiences, and if the earned credentials enable students to live, work, and thrive in the new normal of a post-pandemic world.

### References

- All Campus. (2021). Upskilling: The next revolution in higher education. <https://www.allcampus.com/about-all-campus/press-insights/upskilling-in-higher-education>
- BizLibrary. (n.d.). Reskilling and upskilling your workforce in an automated world. <https://pages.bizlibrary.com/rs/230-MIF-751/images/Reskilling%20and%20Upskilling%20for%20Automation.pdf>
- BrightSpot. (2020). Why digital transformations can't wait until you are ready. <https://brightspot.brightspotcdn.com/70/e8/89c2e3bf4222aca5b172684845ab/brightspot-whitepaper-why-digital-transformation-can-t-wait.pdf>
- Chakroun, B. & Keevy, J. (2018). Digital credentialing: implications for the recognition of learning across borders. United Nations Educational, Scientific and Cultural Organization. <https://unesdoc.unesco.org/ark:/48223/pf0000264428>
- Choudaham, R. (2019). How digital credentials can advance student mobility and success. *AACSB*. <https://www.aacsb.edu/insights/articles/2019/05/how-digital-credentials-can-advance-student-mobility-and-success>

- Credley. (n.d.). Digital credentials are the future of the workforce. <https://info.credly.com/digital-credentials-are-the-future-of-the-workforce>
- EdGlossary. (2015). Student-centered learning. The Glossary of Education Reform. <https://www.edglossary.org/student-centered-learning/day's-workforce?>  
<https://emeritus.org/blog/what-is-reskilling-definition>
- Garland, W. A. (2017). Self-directed learning: Definition & strategies. Study.com. <https://study.com/academy/lesson/self-direct-learning-definition-strategies.html>
- Ghasia, Mohamed & Machumu, Haruni & de Smet, Egbert. (2019). Micro-credentials in higher education institutions: An exploratory study of its place in Tanzania. *The International Journal of Education and Development using Information and Communication Technology*, 15. pp. 219-230.
- Kato, S., Galán-Muros, V., & Weko, T. (2020). The emergence of alternative credentials. *Organisation for Economic Co-operation and Development*. [https://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=EDU/WKP\(2020\)4&docLanguage=En](https://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=EDU/WKP(2020)4&docLanguage=En)
- Kirkpatrick Model of Evaluation. (n.d.). What is the Kirkpatrick model? <https://www.kirkpatrickpartners.com/the-kirkpatrick-model/>
- Lynch, M. (2019). What are digital credentials and what do they mean for education? *The Tech Advocate*. <https://www.thetechadvocate.org/what-are-digital-credentials-and-what-do-they-mean-for-education>
- Manokore, V. & McRae, D. (2021). Revolutionizing learning environments with guerrilla pedagogy in large classes. *Journal of Practical Nurse Education and Practice*, 1 (1), 31-52.
- Matkin, G. W. (2017). Why digital credentials will render university transcripts obsolete and reshape higher education. UNBOUND. <https://unbound.upcea.edu/innovation/alternative-credentialing/why-digital-credentials-will-render-university-transcripts-obsolete-and-reshape-higher-education>
- Mills, M. (1997). Towards a disruptive pedagogy: Creating spaces for student and teacher resistance to social injustice. *International Studies in Sociology of Education*, 7(1), 35–55. <https://doi.org/10.1080/09620219700200004>
- OECD. (2018). The future of education and skills: Education 2030. [https://www.oecd.org/education/2030/E2030%20Position%20Paper%20\(05.04.2018\).pdf](https://www.oecd.org/education/2030/E2030%20Position%20Paper%20(05.04.2018).pdf)
- Online Learning Consortium (OLC). (2015). *Our quality framework*. Retrieved from <https://onlinelearningconsortium.org/about/quality-framework-five-pillars/>
- University of Waterloo. Self-directed learning: A four-step process. Centre for Teaching Excellence. <https://uwaterloo.ca/centre-for-teaching-excellence/teaching-resources/teaching-tips/tips-students/self-directed-learning/self-directed-learning-four-step-process>