

THE CAMPUS OF TOMORROW

CHANGING THE CLASSROOM FOR THE FUTURE OF WORK

Shaping Educational Experiences to Create the Future of Work and College: An Essay

*Lynette Livingston, Ed.D. and
Lisa Arendt, MBA*

Equity Diversity and Inclusion (EDI) and the Online Classroom

Titilayo Soremi (PhD)

Lessons Learned 2020-2022: A Reflection on Teaching Through and Beyond a Pandemic

Julianna Browning, PhD, CPA, CMA, CGMA

Micro credentials in Higher Education: A Systematic Review of the Literature

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The Campus of Tomorrow: Transforming Students into Resilient Leaders of Tomorrow through Remote Real World Consulting Projects

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Professors As Managers in a Changing Classroom: A Practical Approach to Preparing Students for the Future of Work

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The Campus of Tomorrow: Changing the Classroom for the Future of Work

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Education Technology and the Campus of Tomorrow

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Focus and Scope

The Transnational Journal of Business (TJB) is a peer-reviewed interdisciplinary and international journal published by the Accreditation Council for Business School and Programs (ACBSP). The TJB publishes manuscripts that link teaching and research to enhance student learning outcomes. More specifically the Journal is interested in interdisciplinary research that promotes teaching excellence in the various academic disciplines of business to include all theoretical and applied domains.

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The mission of the TJB is to provide a forum for a dialogue to advance teaching excellence through research across the disciplines in business. To this end, the TJB welcomes manuscripts from all ACBSP individual members. The goal is to facilitate a linkage between teaching and research at member institutions.

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Letter from the Managing Editor

Dear Reader,

This is our second special issue of the Transnational Journal of Business in an online format. You will find an interesting collection of essays and research anchored to the theme 'The Campus of Tomorrow: Changing the Classroom for the Future of Work'. It may sound cliché, but the reality is that the pace of change is great and the need for the academy to be more nimble and more adaptive to the needs of society is equally great.

I hope you have some time to read one or more of these articles and perhaps share a few with your colleagues. I am also interested in your reactions. Please write me at: Justin.matus@wilkes.edu.

Justin Matus

A handwritten signature in black ink, appearing to read 'Justin Matus', with a long horizontal line extending to the right.

The Campus of Tomorrow: Changing the Classroom for the Future of Work

Dr. Dwight W. Heaster
Glenville State University

The last couple of years has dramatically changed the world. There have been changes in the way business is done. Employers have found that employees do not always have to be in the same building to complete work. In a recent article by Forbes, the project that 25% of all professional jobs in North America will be remote by the end of 2022 (Bryan Robinson, 2022).

What happened in higher education as we moved to online learning for all? As a member of Generation X, who is tech-savvy, it was apparent that not everyone had the same level of skills. What has prepared this Generation Xer was completing a master's and a Ph.D. online. Learning from the pioneers of online learning gave this individual a more robust understanding of what a good online class should be. These pioneer programs set the standards for what online learning looks like today.

Not all faculty embraced the idea of online learning when the pandemic shut the world down. We saw individuals refusing to use the LMS system. Others wanted the traditional classroom and forced students to meet with them synchronously many times a week. Then others had online courses closer to those early online classes of the 1990s than the modern-day online classroom. Others struggled with the idea of developing content. They tried to take their traditional classroom content and move it online. Others thought they needed to add more content to ensure that they met the standard hours of learning. Neither of these created a thriving learning environment for students. Students struggled to understand the content without the professor lecturing when it was their on-ground course. Students could not complete the vast amounts of work that the faculty placed in those classes where they felt they needed to compensate for the lack of on-ground experiences. Some faculty were ill-prepared for an online environment because they did not realize that online education has its own learning pedagogy. The opportunity that the administration noticed too late for

the start of the pandemic was the need for training that would assist faculty in being better prepared.

The second observed thing was that not all content could easily be transferred to an online classroom environment. For instance, it is hard to conduct a band or a choir through a digital format. While technology has advanced, the delay and sound quality are not there, and thus this classroom content had to be modified. This faculty taught an Advertising class that required the students to use Adobe. While we had the software available in our computer lab, it was unavailable when we moved online. Adjustments had to be made to accommodate the learning objectives.

The following observation that this Generation Xer noticed was that while 18-year-old college-age students can work with a smartphone in the dark with one hand, they are not all as tech-savvy as we thought they would be. They struggled with an online platform. The vast differences in online class design between those classes that started on the ground and those designed online were dramatic. A few students thought that online classes would be more accessible and found that they were the opposite. They did not realize that they would spend so much time studying, reading the content, and exploring other sources to help themselves understand the materials. They were ill-prepared for a more independent process. This, I believe, comes from the fact that K-12 has not prepared them for such an independent process. This is not the fault of teachers but the system. The "Adopt a Classroom" website points out just how many distractions exist in the classroom and children's needs. While the website's focus is on classroom needs, it does show just how distracted teachers are dealing with shortages in staff, supplies, and the basic emotional and psychological needs of their students (Karbowski, 2022). They struggled with converting the content they had prepared for a classroom environment to online. They read the body language

and understand their student's struggles and personal interactions. Taking these extra queues away from the K-12 teacher made it more challenging to read the needs of their students. Parents were placed in a situation where they had to pick up the slack and, in some cases, lacked the skills to properly help their child. Balancing their own workload and that of their child while being home together 24/7 certainly added to the stress level of everyone concerned.

A significant obstacle in my area was the lack of high-speed internet in many areas. The university I work at is in a rural part of West Virginia. A large percentage of West Virginia residents deal with poor internet service (Manfield, 2021). The university stepped in and provided opportunities for those who were in need. They offered WIFI in the parking lots to help, but it meant that they must sit in their vehicle to use this opportunity. This was not easy with the four-season environment of West Virginia. Faculty developed downloadable content that could be worked on offline. This allowed for more flexibility for those students who lacked the resources necessary for online learning at home.

A fallout of the pandemic that is changing business and education is the tremendous burnout that individuals are experiencing. K through 12 teachers are leaving teaching in larger numbers because of the burnout and stress of the last three years. The National Education Association estimates that 55% of teachers are considering a career change (Walker, 2021). This article discusses the stress and strain as contributors to the mass exodus of teachers from the profession (Walker, 2021). It is being seen at all levels of education. As a college professor and head of a department, I have noticed the stress level of faculty, staff, and students. There are many who expressed just how much their summer meant to them this year.

Where does this Generation Xer see education in the next 10 to 15 years? Technology will be the cornerstone of learning. A classroom will include face-to-face students and online students learning in the same classroom. A

student will no longer sign up for an online class and expect to work completely independently. That online student will be able to login to an on-ground class and experience the learning alongside of their brick-and-mortar learners. We will also see dramatic integration of technology throughout the curriculum. One of the biggest take aways from the pandemic was using virtual meeting platforms like Microsoft Teams and Zoom. This will replace many face-to-face meetings not because of fear but because of convenience. This has also been a takeaway for business leadership. They realize that many travel experiences can be discussed via Zoom instead of jumping on a plane.

Will small schools like the one that I work existing in 20 years? I honestly do not know. It is in a small rural town in West Virginia where the state population is declining. For such schools to exist in 20 years, innovation in learning and the integration of technology will be vital. This means a dramatic change in the curriculum. It will also mean a change in learning pedagogy from a traditional model to one that integrated a more technology-focused learning experience. The traditional educational model isn't how Generation Z and Millennials want to experience higher education. They have access to information at their fingertips with smartphones. They are interested in experiencing education in the form of applied learning and real-world relevance. We need to help them sift through the garbage that can be found online to ensure that they have the correct information and then on how to use it in a career.

The idea of applied learning and competency-based education are controversial to many liberal arts educators, but this scholar sees them as part of our future. The more we can show students how education is not just a process of gaining knowledge but a lifelong process of gaining, synthesizing, and utilizing information to better ourselves and those around us, the better. One of the best ways to do that is to meet them in an environment that works for them; technology.

References:

- Bryan Robinson, P. (2022, February 1). Remote Work is Here to Stay and Will Increase in 2023, Experts Say. Retrieved from Forbes: <https://www.forbes.com/sites/bryanrobinson/2022/02/01/remote-work-is-here-to-stay-and-will-increase-into-2023-experts-say/?sh=109b3d7620a6>
- Karbowski, D. (2022, April 12). Adopt a Classroom. Retrieved from The State of Teaching Today: https://www.adoptaclassroom.org/2022/04/12/state-of-teaching-statistics-2022/?gclid=CjwKCAjwv-GUBhAzEiwASUMm4lRdaxBzzsyNp-oZ9Kc_IPLQC_oDIj9KJTa2GQhzBppT0V1MIRHeqhoC4XoQAvD_BwE
- Manfield, L. (2021, February 16). Mountain State Spotlight. Retrieved from Mountain State Spotlight: <https://mountainstatespotlight.org/2021/02/16/west-virginia-leaders-say-improving-internet-is-a-top-priority-the-latest-numbers-show-access-in-the-state-is-just-getting-worse/>
- Walker, T. (2021, February 1). National Education Association. Retrieved from NAE: <https://www.nea.org/advocating-for-change/new-from-nea/survey-alarming-number-educators-may-soon-leave-profession>

Micro Credentials in Higher Education: A Systematic Review of the Literature

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Keywords

Micro Credentials, Badges, Higher Education, Systematic Review

Abstract

Micro credentials; including digital badges, are gaining momentum as a supplement to or alternative of a college degree. While these are becoming prevalent in higher education, comprehensive information about the benefits and best practices appears to be lacking. Therefore, this research aims to take a comprehensive approach to analyzing the research associated with micro credentials in higher education. Using the systematic literature review approach, all peer-reviewed micro credential articles available were reviewed in six education and research databases to answer nine research questions about the value, implementation and best practices related to micro credentials, and its three main stakeholders – the student, the provider, and the employer. The literature supports a conclusion that, when designed and implemented properly, micro credentials can be effectively used to highlight specific skills, providing value to all three stakeholders. However, many caveats and pitfalls remain, and additional studies are needed to explore this nascent area of education more fully.

Introduction

Micro credentials, what are they and how can they enhance traditional programs in institutions of higher education? This is a common question facing many educators as there are a variety of terms used interchangeably, especially as educators are focusing efforts on ways to increase enrollment given the worsening decline during COVID-19. A recent report by the National Student Clearinghouse Research Center (2022) noted a decrease of 4.1% in total postsecondary enrollment from Spring 2021 to Spring 2022. The largest decline is in undergraduate

enrollment, which is down 9.4% from before the pandemic. Universities faced numerous changes during the pandemic, particularly changes in education delivery modalities to online and hybrid learning.

The workplace faced similar shifts to online and remote work. Further, COVID-19 also brought about the “great resignation”, which changed how individuals viewed their professional growth. Individuals began focusing on upskilling and reskilling, which shifted the workplace toward competencies in a specific skill or knowledge (Pelletier et al., 2022). A study by Billing et al. (2021)

found “Sixty-nine percent of respondents say that their organization is doing more skill building now than they did before the COVID-19 crisis (para. 3).” Subsequently, micro credentials and skill-based certifications have become a key focus to address the changing education landscape and meet the needs of industry.

Micro credentials, also called alternative credentials, can be defined as a representation of specific skills and competencies assessed through a non-degree program. (Clements, 2020). The concept itself is not new. According to Levine and Van Pelt (2021), “Yale established the first certificate program more than two centuries ago in 1799 (p. 227).” The use of micro credentials allows for discrete and incremental skill development in a learning environment (Gish-Lieberman, 2021). One such more well-known form of micro credentials is the digital badge. Digital badges are images that include metadata. This metadata allows for verification of skill achievement for the badge earner (Clements, 2020). According to Cheng et al. (2020), “In higher education, digital badges have the potential for assisting students by promoting strategic management of the learning process, encouraging persistence and devoted behavior to learning tasks, and improving learning performance (p. 406)”. Badges have been used historically in the military, scouting and religious orders, and more recently in video gaming, as symbols of achievement. (Ellis et al., 2016; Halavais, 2012; Beattie, 2014; Ostashewski & Reid, 2015). The use of digital badges to represent educational achievement adds an element of gamification to the traditional educational path and encourages self-directed learning to advance skill development. (Ahn et al., 2014; Halavais, 2012; Ostashewski & Reid, 2015).

As the demand for skills-based learning grows (Gallagher, 2018), institutions of higher learning will need to design learning experiences that better meet the needs of prospective students and their future employers (Pelletier et al., 2022). Micro credentials, including digital badges and mini certificate programs, are emerging educational delivery models that could help higher education institutions address this gap. This systematic literature review was undertaken with the goals of (1) understanding the motivation for implementing micro credentials, (2) determining how micro credentials demonstrate assurance of learning, and (3) identifying the best practices for designing and implementing micro credentials in higher

education. In order to address these goals, the following research questions (RQ) were developed:

- **RQ1:** Do micro credentials help students obtain employment?
- **RQ2:** Who values micro credentials?
- **RQ3:** Which types of micro credentials are valued by employers?
- **RQ4:** Do employers have a preference on who issues the credential?
- **RQ5:** Do employers have a preference on the content?
- **RQ6:** Do required micro credentials increase student mastery of learning outcomes?
- **RQ7:** Do micro credentials add validity to the college degree?
- **RQ8:** What are the benefits and drawbacks of micro credentialing?
- **RQ9:** Do micro credentials motivate students?

The remainder of the paper is organized as follows. First, the methodology used to conduct the systematic review is presented. The articles are then summarized by theme. Next, the key findings are presented as they relate to the research questions. Finally, overarching conclusions are provided along with recommendations for future research.

Research methodology

In order to address the research questions, a systematic literature review was conducted to examine the existing literature on the use of micro credentials in higher education. The systematic review for this research followed the stages proposed by Tranfield et al. (2003); which were further advocated and outlined by Brereton et al. (2007). This methodology has been widely used due to its transparency, repeatability, and ability to avoid the potential effects of research bias. These stages included (1) planning the review, (2) conducting the review, and (3) reporting and dissemination. Each stage and its respective steps are outlined in Table 1.

Table 1. Systematic review stages

Stage	Step	Summary
Planning the review	Develop research goals and objectives	Identify and review peer reviewed papers on micro credentials in higher education for trends and common themes.
	Identify key search terms	“microcredentials”, “micro-credentials”, “micro credentials” and “higher education”
	Identify relevant databases	Academic Search Complete, Business Source Premier, EBSCO, Education Full Text, ERIC, and ProQuest ABI/INFORM
	Determine inclusion criteria	Full text articles Peer reviewed articles Articles published in English No time restrictions
Conducting the review	Perform electronic search of databases and review for duplicates	182 articles identified 127 duplicate articles identified 55 articles remained
	Review title and abstract based on inclusion/exclusion criteria	21 abstracts did not meet inclusion criteria
	Review full paper for inclusion/exclusion criteria	34 papers remained
Reporting and dissemination	Report on the key findings and trends	

Planning the Review

The first step of the systematic review was to determine the research goals and objectives. In order to address the research questions, the goals were to identify and review peer reviewed papers on micro credentials in higher education for trends and common themes. The key search terms identified included “microcredentials”, “micro-credentials”, “micro credentials” and “higher education”. The literature was not consistent in the spelling of micro credentials; therefore, all possible combinations were searched. The review was limited to Academic Search Complete, Business Source Premier, EBSCO, Education Full Text, ERIC, and ProQuest ABI/INFORM as these are the relevant databases in the field of education. Recognizing micro credentials in higher education are relatively new, the search was not limited to a specific timeframe in order to ensure all relevant articles were included. However, the search was limited to full text, peer reviewed articles published in English.

Conducting the Review

Throughout the review, data was collected on the number of articles. The electronic search of the databases with the parameters outlined in the prior phase resulted in 182 articles. These articles were then reviewed for duplicates and 127 duplicate articles were identified. Additional information on the remaining articles were collected such as title, author, and year. The titles and abstracts of the 55 remaining articles were thoroughly reviewed based on the inclusion and exclusion criteria. Of these, 21 articles were removed from the study as they did not discuss micro credentials. The majority of these 21 articles had a cursory mention of micro credentials and did not study the use of micro credentials in higher education. As a result, 34 articles remained for full review. Each of these 34 articles were analyzed based on the research questions. Summaries of these articles are provided in the next section.

Literature review on micro credentials in higher education

As previously noted, the research consisted of addressing three goals, which include (1) understanding the motivation for implementing micro credentials, (2) determining how micro credentials demonstrate assurance of learning, and (3) identifying the best practices for designing and implementing micro credentials in higher education. Therefore, the summaries of the literature are organized with respect to these three themes.

Goal 1: What is the motivation for implementing micro credentials?

Motivation can be understood as the reasons that underlie behavior (Ryan & Deci, 2000). Ryan and Deci (2022) also classified motivation into two types: intrinsic motivation and extrinsic motivation. The difference between those is the purpose of engaging in an activity. Intrinsic focuses on its own sake, but extrinsic focuses on the instrumental reasons (Ryan & Deci, 2000). Learners, educators, and employers are some key stakeholders of micro credentials. Each stakeholder has different motivations in implementing micro credentials (Brown et al., 2021).

With respect to the motivation of learners, McGeown et al. (2014) found digital badges may act as a form of extrinsic

motivation for students that, in turn, can lead to intrinsic motivation for learning and to maintain engagement. Mah (2016) also found the gamification elements of digital badges may serve as a motivation for students to develop the requisite skills of the digital badge, while Shield and Chugh (2016) noted awarding a badge for work or skills also creates motivation to learn skills required. Rimland and Raish (2017) provide design principles for flexible, stackable badges grounded in learning theory and instructional design. The proposed scaffolding approach addresses best practices to increase intrinsic and extrinsic motivation. The key design considerations include completion time, assessment of student work, activity design, and type of assessment. An analysis of Open Digital Badges in the context of goal setting was conducted by Cheng et al. (2018). They propose this relationship can improve the learning experience, increase learning autonomy and facilitate the achievement of intrinsic learning motivations. Initial findings of a three-year study by Iwata et al. (2019) suggest digital badges were a positive enhancement for 2/3 of the students. Evidence demonstrated a potential benefit of badges for a holistic view of learner achievement. However, a case study by Lexman et al. (2019) suggested lack of peer interaction impacted motivation. According to the case study, continuous reinforcement through evaluation and rewards may increase motivation. A study by Hartnett (2021) also found digital badges motivate learners.

Several studies also addressed the motivation of educators. A study by Lindstrom and Dyjur (2017) on the impacts of digital badging suggests internally issued digital badges may result in the issuer (i.e., the university) placing more emphasis on competency of content. Recent research by Riskey et al. (2020) explored the intrinsic and extrinsic value of digital badges in faculty development motivation on the part of a transformational partnership. The evidence suggested high satisfaction rates and learning transfer. Further, a study by Perea (2020) suggested stacking smaller micro credentials throughout an associate degree program can provide benefits to the students in several ways. Stacking micro credentials (digital badges) early in the associate degree program may lead to increased retention rates and provides students with industry-specific skills that are easily and transparently measured. This may provide students with additional entry and exit points within a degree pathway as students can leave the program

by utilizing their credentials to gain employment, and then jump back into the program when it fits with their life. In addition, Brown et al. (2021) found the benefits of educators for implementing micro-credentials include greater collaboration with industry, innovation in digital and online learning, and improve quality of course design.

Only two papers addressed the motivation of employers. Harmon and Copeland (2016) found micro credentials motivate employers if tied to employer recognition of skills or professional development. According to Brown et al. (2021), micro-credentials bring many benefits to motivate employers in implementing micro credentials such as new continuous professional development options, assist recruitment, address widening skills gaps, more fit for purpose professional learning, enhance collaboration with university, and improve employee retention.

Goal 2: How do micro credentials demonstrate assurance of learning addressed?

The majority of the research is empirical; therefore, the findings focused predominantly on perceived learning and achievement. For example, Mah (2016) noted the benefit of using micro credentials as a visualization method for students to understand their learning paths and learning progress. Reeves et al. (2017) found the certificates, whether free or paid, were consistently and positively related to perceived learning and course completion. They also noted the importance of ensuring the technical integrity of the assessment to prevent cheating. Similarly, Hensiek et al. (2017) reported statistically significant improvements in students' handling lab equipment in a general chemistry class with badges. According to Carey and Stefaniak (2018), well-designed badges can provide a form of alternative assessment, which supports collaboration and engagement. However, Behney (2019) noted it can be difficult to measure the impact of micro credentials if they are fully integrated into a course. Iwata et al. (2019) measured students' perceptions of learner achievement using digital badges in a terminology course and found a positive increase in two-thirds of students. In one of the few theoretical studies, Riskey et al. (2020) measured the use of digital badges on faculty development motivation among three higher education institutions and a national reform. The study employed a mixed-method approach in which the findings suggested an increase in learning transfer. Boud and de St. Jorre (2021) call for the

separation of learning outcomes for macro and micro credentials but did not provide a framework or case study.

Goal 3: What are the best practices for designing and implementing micro credentials in higher education?

Broadly speaking, the best practices for using micro credentials fit into one of two categories, depending on how the credentials are going to be used. One category is internal to the educational institution with the aim of increasing pedagogical outcomes or effectiveness. The other is directed externally to the institution, preparing learners for opportunities such as employment or mobility within their existing careers.

Within the educational institution, credentials have been shown to favorably influence students' completion of courses and to be a motivating factor, especially if the micro credentials are not overly complex to attain and are aligned with course learning objectives (Cheng et al., 2018; Newby & Cheng, 2020). Learners in massive open online course (MOOC) settings were shown to complete courses at a higher rate when credentials were associated with each course taken, versus those only given once a series of courses were completed (Reeves et al., 2017). Also, learners value these credentials when identifiable skills and tasks are required to obtain them, as opposed to cases when they are awarded simply for participation (Ashcroft et al., 2021). These findings suggest when micro credentials are used, designers should thoughtfully plan their alignment with instructor objectives/course outcomes, anchoring them upon identifiable skills and knowledge, and associate their completion with discrete tasks as a positive reinforcer (Behney, 2019; Cheng et al., 2019; Hensiek et al., 2017; Maina et al., 2017; Newby & Cheng, 2020; Reeves et al., 2017; Virkus, 2019). Though there are some potential drawbacks to using micro credentials, the literature suggests thoughtful implementation and usage has much more upsides to offer in improving student learning (Hartnett, 2021; Virkus, 2019; Abramovich, 2016), goal setting (Cheng et al., 2018; Mah, 2016), recruiting for new students, and improving the quality of course design (Brown et al., 2021).

In terms of value to external stakeholders, research indicates micro credentials should be aligned with in-demand job skills and the entity granting the credentials should be seen as both recognizable and credible by

employers (Selvaratnam & Sankey, 2020; Ashcroft et al., 2021). While some studies suggest both knowledge and skills can be represented by micro credentials, certain findings clearly suggest employers are more likely to see them as valid when they are associated with technical skills (Parea, 2020; Ashcroft et al., 2021). Another insight is employers saw micro credentials as an enhancer of a four-year college degree, not a replacement for it (Ashcroft et al., 2021). This last point suggests caution for educators' expectations of "stackable" micro credentials, if the idea is they would eventually equate to an undergraduate degree. Parea (2020) also notes stackable credentials bring value when aligned with employers' needs for technical skills. Further, these were community college students more acutely pursuing education in hopes of immediate job placement versus having their broader development as an included focus.

Principal findings

The synthesis of the analysis started at a high level to understand the pattern and source of publications. Therefore, aspects such as year of publication and country of publication were analyzed. The analysis then focuses on the specific research questions.

While the concept of micro credentials is not relatively new, research in the area of micro credentials is nascent, particularly in higher education. The literature review search was not limited with respect to publication date, yet only 34 published research studies existed in the literature. The first publications were in 2016. While there was a drop in 2018, the number of publications has remained consistent as illustrated in Figure 1.

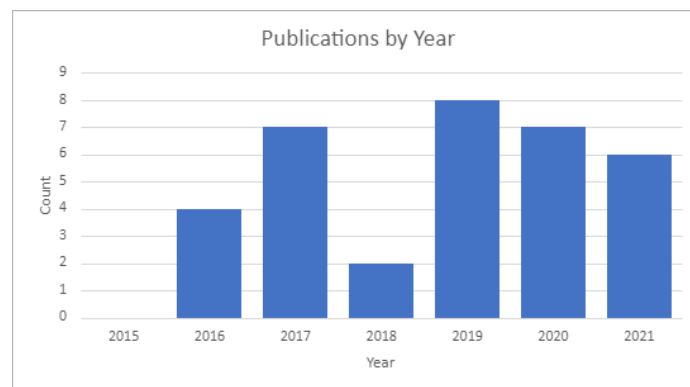


Figure 1. Publications by year

As noted in Figure 2, the majority of the research was conducted in the United States (52.9%), with the next highest publications (11.8%) coming from Australia. Research on micro credentials was not limited to a specific geographic region; however, most studies were performed in only one country. Only three studies (8.8%) were executed across multiple countries.

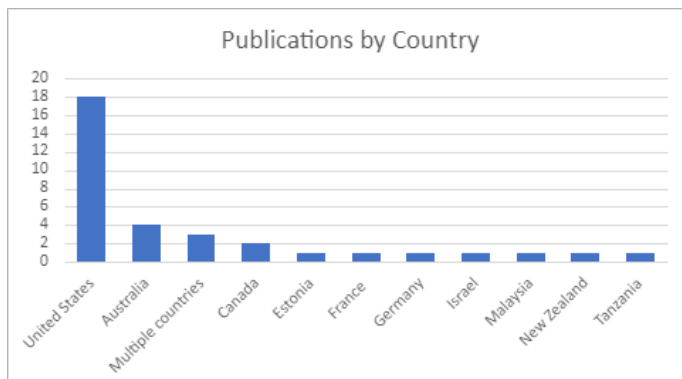


Figure 1. Publications by country

Research Question 1: Do micro credentials help students obtain employment?

Connections between micro credentials and obtaining employment ranged in the literature from not being addressed (Harmon & Copeland, 2016; Cheng et al., 2018; Behney, 2019), to being a suggestion for future research (Carey & Stefaniak, 2018; Roy & Clark, 2019) to a few studies that explicitly uncovered a connection, but notably under prescribed circumstances (Maina et al., 2017; Perea, 2020; Ashcroft et al., 2021; Wheelahan & Moodie, 2021). Further, a few scholars critically questioned if micro credentials are simply a faddish bandwagon in higher education (Roy & Clark, 2019) to others (already noted) that caution higher education should not be confined to only meeting the immediate employment needs of industry (Wheelahan & Moodie, 2021).

The most relevant evidence was provided by Maina et al. (2017), Perea (2020), and Wheelahan and Moodie (2021). In the case of Maina et al. (2017), employers found micro credentials of some value when included within an e-portfolio as part of the hiring process. In both the cases of Perea (2020) and Wheelahan and Moodie (2021), research was conducted at community colleges in Tennessee and Colorado with students pursuing associate degrees. The significance of the

context is two-fold: students pursuing two-year degrees as a pool were more interested in obtaining readily employable skills. On the other hand, employers in both Colorado and Tennessee identified a list of skills gaps in their workforces that were hindering hiring and consequently impacted each state's economic growth. In this context, micro credentials were introduced to purposely meet employers' needs. Therefore, it is not surprising these employers in the end found micro credentials valuable. Yet, it is important to note the dialogue between higher education institutions and industry resulted in mutual benefit.

Research Question 2: Who values micro credentials?

From a holistic perspective, there are multiple stakeholders of micro credentials in higher education including the student, instructor, institution, and employer. Therefore, the literature was analyzed to understand the value with respect to each of these stakeholders. A review of the literature suggests students and higher education institutions value micro credentials slightly more than the other stakeholders researched. There are, however, some studies that support professional development for staff and the role micro credentials play with gamification, in addition to their importance in industry. For example, Risquez et al. (2020) state visible identifiers are being sought out more than ever in higher education settings, which is why micro credentials are trending up in that sector. Lexman et al. (2018) suggest the quantity of courses historically offered to instructors have been voluminous, but the face-to-face requirement has been a barrier to which only half of instructors can typically take advantage. Concerning employers, Chugh and Shields (2016) argue the ability industry has to view, obtain, and verify micro skills assists with the transparency of employment and is much more efficient. Ultimately, the combination of students being motivated, coupled with a tool that showcases accredited learning has micro credentials on the minds of many. Figure 3 outlines the multiple stakeholders involved with micro credentialing and the number of articles researched by the authors that mention their value to a specific stakeholder group.

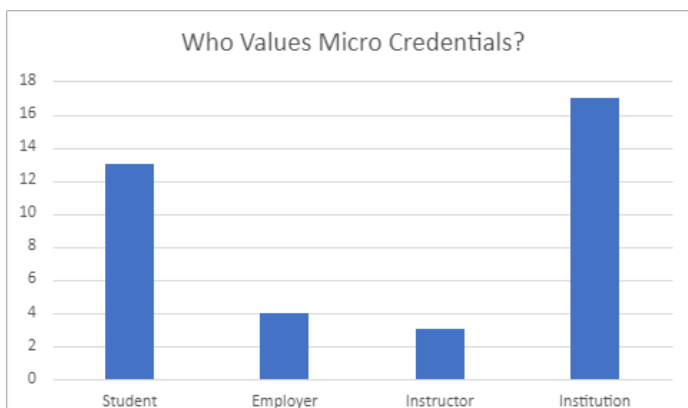


Figure 3. Analysis of the stakeholders who value micro credentials

Research Question 3: Which types of micro credentials are valued by employers?

Several types of micro credentials exist such as badges, certificates, and certifications. However, micro credentials are a relatively new method of presenting skills qualifications, limited literature exists regarding the types valued by employers. Selvaratnam and Sankey (2020) suggest when an institution is creating a micro credential program, it should work directly with employers to determine what would be valuable to them. Ashcroft et al. (2021) found employers are somewhat skeptical of the validity of micro credentials and see them as a complement, rather than a replacement for a degree. Ashcroft et al. (2021) also found employers value micro credentials earned for technical skills more highly than those earned for soft skills and are conferred by a reliable issuing institution. As part of a study of students, lecturers, and employers, Maina et al. (2017) reported employers indicated digital badges as part of an ePortfolio were useful in gauging the qualifications of potential employees.

Research Question 4: Do employers have a preference on who issues the credential?

Micro credentials are available from a variety of sources such as universities, LinkedIn learning, and professional societies. Yet, of the 34 papers included in the final review, only one paper discussed a preference. Ashcroft et al. (2021) discussed the importance of a micro credential being issued by a credible and exclusive source. The study found students agreed more strongly than employers that micro credentials are valuable for demonstrating competence in a technical skill. However, employers agreed more strongly than students that the value of a micro credential is dependent on what needs

to be done to earn it and is based on knowledge acquisition and demonstrated competence in a particular skill within a work environment, and that it is dependent on the credibility of the organization that granted it. Further, particularly from the student's perspective, exclusivity is important to set them apart from other students and job candidates.

Research Question 5: Do employers have a preference on the content?

A review of the empirical literature suggests micro credentials can include a wide variety of content from soft skills to technical skills. As noted in Figure 4, multiple micro credentials studied within the empirical literature were related to building information literacy (Behney, 2019; Harmon & Copeland, 2016; Virkus, 2019), developing faculty (Lexman et al., 2019; Risquez et al., 2020), and preparing students for employment (Ashcroft et al., 2021; Copenhaver & Pritchard, 2017; Maina et al., 2017; Perea, 2020). Micro credentials focused on building technology/computing skills (Newby & Cheng, 2020), training students on the proper use of chemistry lab equipment (Hensiek et al., 2017), teaching English terminology (Iwata et al., 2019), and facilitating goal setting (Cheng et al., 2019) were also studied in the empirical literature. In terms of employer preference for the type of content covered by micro credentials, a review of the literature revealed students can use micro credentials to build and signal both soft and technical skills to future employers, but the findings did not indicate a preference for one over the other. Harmen and Copeland (2016) concluded micro credentials work best to teach skills rather than knowledge, while Ashcroft et al. (2017) suggested students felt more strongly than employers that micro credentials were valuable for demonstrating competence in a technical skill.

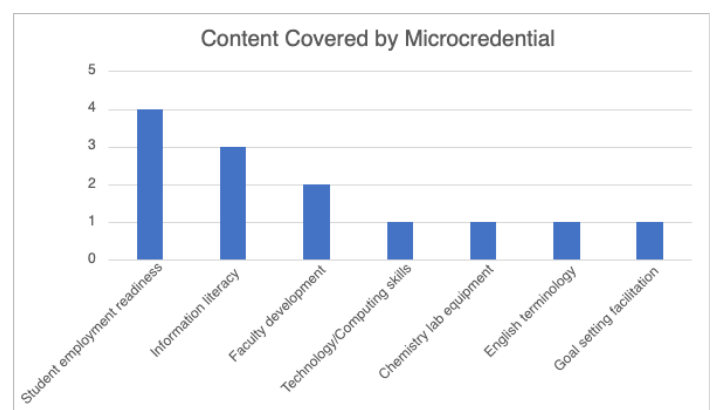


Figure 4. Content focus of micro credentials

Research Question 6: Do required micro credentials increase student mastery of learning outcomes?

A key aspect of using micro credentials in higher education is linking them to learning outcomes. As reported in Table 2, the findings from many of the empirical studies reviewed suggest the inclusion of micro credentials as required elements of higher education courses can increase mastery of course learning outcomes (Behney, 2019; Cheng et al., 2019; Hensiek et al., 2017; Maina et al., 2017; Newby & Cheng, 2020; Reeves et al., 2017; Virkus, 2019). Moreover, the results from two studies revealed some learner characteristics related to learning gains from micro credentials. Specifically, Reeves et al. (2017) found older participants reported higher perceived learning from a micro credential, as did Asian participants when compared to White participants. Further, Cheng et al. (2019) suggested students with high self-efficacy for self-regulated learning (SESR) perceived higher mastery of learning outcomes than students with lower SESR.

It should be noted that most of the studies considered in this review used a subjective measurement that relied on student or instructor perception of learning gains (Behney, 2019; Cheng et al., 2019; Maina et al., 2017; Reeves et al., 2017; Virkus, 2019). However, two studies introduced objective measures to capture this data. Newby and Cheng (2020) used a combination of student perception, assignment scores, and course grades to conclude technology/computing skills were increased as a result of the micro credential. Hensiek et al. (2017) used a combination of pre- and post-badge surveys to measure improvement in student knowledge, confidence, and experience in the use of common lab equipment and were also able to quantify the amount saved by the department directly resulting from student mastery of these concepts.

Regarding the assessments that led to the achievement of the micro credentials, the majority of the micro credentials were measured through the successful completion of instructor-graded assignments or challenges (Cheng et al., 2019; Hensiek et al., 2017; Maina et al., 2017; Newby & Cheng, 2020; Virkus, 2019), while one micro credential was awarded based on the successful completion of task-based challenges (Behney, 2019) and another (Reeves et al., 2017) was achieved purely based on the completion of a MOOC.

Table 2. Impact of micro credentials on the mastery of course learning outcomes

Mastery of Learning Outcomes	Mastery Measurement	Micro Credential Assessment	Course	Source
Improved knowledge, confidence, and experience in how to use common lab equipment; \$3,200 savings in equipment replacement costs	Pre- and post-badge survey measuring student perception of knowledge, experience, and confidence with using lab equipment	Instructor-graded video of student demonstrating correct use of equipment	Yes	Hensiek et al. (2017)
87.5% of instructors and 94% of students agreed the program fostered outcomes assessment and noted the program provided them with a "clear view of their skills development"	Student and instructor perception	Employer and instructor-reviewed assignments	Yes	Maina et al. (2017)
Older participants reported higher perceived learning; Asian participants perceived higher learning than White participants	Student perception	MOOC completion	Yes	Reeves et al. (2017)
Increased confidence in completing coursework and preparing for graduate school	Student and faculty perception	Task-based challenges	Yes	Behney (2019)
Students with high SESR perceived higher mastery of learning outcomes than those with low SESR	Semi-structured interviews	Instructor-graded challenges	Yes	Cheng et al. (2019)
Increased contribution to class discussion and group work	Student perception	Instructor-graded individual assignments, group work, discussions, and presentations.	Yes	Virkus (2019)
Increased technology/computing skills				
Increased assignment scores				
Increased overall course performance	Student perception			
Assignment score				
Course grade	Instructor-graded challenges	Yes	Newby and Cheng (2020)	

Research Question 7: Do micro credentials add validity to the college degree?

Several of the studies within the literature explored the idea that micro credentials could add validity to the college degree. Iwata et al. (2019) and Brown et al. (2021) suggested the inclusion of micro credentials within the college degree program provided a more holistic view of learned achievement than the degree itself. Others cautioned micro credentials could add validity to the college degree only when the criteria for earning it was set by a professional organization (Behney, 2019) and there was integrity within the micro credential's assessment process (Reeves et al., 2017). Ashcroft et al. (2021) concluded micro credentials could add value to the college degree depending on several factors: 1) what needed to be done to earn it; 2) the knowledge acquisition and demonstrated competence in a particular skill within a work environment; and 3) the credibility of the granting organization. Maina et al. (2017) noted the addition of micro credentials to the academic program supported student transition to the workplace; fostered employability skills awareness; increased skills visibility,

transparency, and credibility; and enriched the traditional job application materials (resume and transcripts) for faster and more-targeted student recruiting experiences.

Although the inclusion of micro credentials in academic programs appears to add validity to the college degree by providing a signal of competence to future employers, results from the literature suggest there is some concern micro credentials could undermine the value of the college degree itself (Ahmat et al., 2021; Boud & St. Jorre, 2021; Wheelahan & Moodie, 2021) with some authors concluding students could put the skills and knowledge gained via the micro credential to immediate use and bypass the degree completely. Virkus (2019) noted a traditional college degree may not be necessary in the future because people who earn badges can show employers the skills and knowledge they possess regardless of a college degree, while Perea (2020) concluded stacking micro credentials could provide students with industry-specific skills that would allow them to leave their academic programs and immediately gain employment.

Research Question 8: What are the benefits and drawbacks of micro credentialing?

The benefits and challenges associated with micro credentialing were also analyzed. Within the existing literature, numerous benefits were identified relating to the student/learner, institution, and employers as shown in Table 3. The most noted benefits for students were the recognition and increased motivation. Several studies found micro credentials increased student motivation (Hartnett, 2021; Reeves et al., 2017; Shields & Chugh, 2016; Mah, 2016). The digital recognition students receive from a micro credential highlights a granular accomplishment or skill obtained to an external audience, which is typically a potential employer (Carey & Stefaniak, 2018; Cheng et al., 2018; Lindstrom & Dyjur, 2017; Brown et al., 2021). This also relates to the benefit of improving employability (Selvaratnam & Sankey, 2020). Several studies found micro credentials aided students in enhancing their skills (Ghasia et al., 2019; Brown et al., 2021), improving student learning (Hartnett, 2021; Virkus, 2019; Abramovich, 2016), supporting goal setting (Cheng et al., 2018; Mah, 2016), and providing flexible and personalized student learning (Ryken, 2006; Virkus, 2019; Brown et al., 2021). The study by Brown et al. (2021) identified a comprehensive list of institutional benefits including opportunities for new business models, innovative digital and online learning, potential marketing for new students, while increasing outreach and collaboration with industry and improving the quality of course design. In

addition, Reeves et al. (2017) found micro credentials increase student retention. Interestingly, Hensiek et al. (2017) noted a decreased lab equipment costs from student training. The most comprehensive list of benefits for employers was identified again by Brown et al. (2021), who noted micro credentials benefit employers by assisting in recruitment, addressing skill gaps, providing professional development, improving employee retention, and providing opportunities to collaborate with universities. Harmon and Copeland (2016) also found micro credentials were a motivator for employees if they were linked to recognition or professional development.

Table 3. Micro credential benefits identified in the literature

Student Benefits	Source
Content is more current	Brown et al. (2021)
Cost of study reduced	Brown et al. (2021)
Digital recognition of granular accomplishments/skills to an external audience	Lindstrom and Dyjur (2017); Carey and Stefaniak (2018); Cheng et al. (2018); Brown et al. (2021)
Employability	Selvaratnam and Sankey (2020)
Goal setting	Mah (2016); Cheng et al. (2018)
Personalized/flexible student learning; flexibility in pursuing a degree and workforce credentials; credit-bearing pathway	Ryken (2006); Virkus (2019); Brown et al. (2021)
Skills, re-skill, up-skill	Ghasia et al. (2019); Brown et al. (2021)
Student learning and achievement of learning outcomes	Abramovich (2016); Virkus (2019); Hartnett (2021)
Student motivation	Mah (2016); Shields and Chugh (2016); Reeves et al. (2017); Hartnett (2021);
Institution Benefits	Source
Business models	Brown et al. (2021)
Collaboration with industry	Brown et al. (2021)
Course design quality	Brown et al. (2021)
Digital and online learning innovation	Brown et al. (2021)
Lab equipment costs from student training	Hensiek et al. (2017)
Marketing for new students	Brown et al. (2021)
Outreach	Brown et al. (2021)
Student retention	Reeves et al. (2017)
Employer Benefits	Source
Collaboration with universities	Brown et al. (2021)
Employee retention	Brown et al. (2021)
Professional learning opportunities	Brown et al. (2021)
Motivation if tied to employer recognition or professional development	Harmon and Copeland (2016)
Recruiting	Brown et al. (2021)
Skill gaps	Brown et al. (2021)

The literature also identified several drawbacks with respect to students, the institution, and employers as noted in Table 4. The lack of intrinsic engagement and focus on real learning was noted in several studies (Cheng et al., 2018; Harmon & Copeland, 2016; Virkus, 2019; Cantwell & Rose, 2018; Abramovich, 2016; Iwata et al., 2019). Harmon and Copeland (2016) also found students had difficulty maneuvering micro credentialing systems. One of the key institutional drawbacks is related to cost, both from the perspective of the time and labor necessary to create micro credentials and the continuous maintenance required to ensure the content remained relevant and current. Additional institutional drawbacks included difficulty gaining faculty buy-in, concerns around commodifying education, negative association with completing a micro credential versus completing a course, and difficulty working with external organizations on badges. Finally, two key drawbacks were identified for employers, including the transferability and quality of badges.

Table 4. Micro credential challenges identified in the literature

Student Drawbacks	Source
Encourages students to focus more on badge than learning	Virkus (2019)
Extrinsic motivators risk lack of real learning	Cantwell and Rose (2018)
Focuses on extrinsic rather than intrinsic motivation	Cheng et al. (2018)
Lack of engagement and motivation for micro-credentials	Abramovich (2016)
Micro-credentialing systems hard to maneuver	Harmon and Copeland (2016)
Not a motivator for students	Iwata et al. (2019)
Not as meaningful as grades, felt like extra work	Harmon and Copeland (2016)
Institution Drawbacks	Source
Associating badges with external organizations is difficult	Horstman et al. (2020)
Continuous maintenance/update for relevant technology	Carey and Stefaniak (2018)
Faculty buy-in	Carey and Stefaniak (2018)
Micro-credential completion negatively associated with course completion	Reeves et al. (2017)
Potential to 'commodify' education	Behney (2019)
Time consuming and labor intensive to create (cost)	Carey and Stefaniak (2018)
Employer Drawbacks	Source
Lack of clear standardization hinders external transferability	Carey and Stefaniak (2018)
Quality and status of badges vary from one to another	Virkus (2019)

Research Question 9: Do micro credentials motivate students?

A key aspect of integrating any new educational tool or technique is understanding if and how it will motivate students. The existing literature indicates micro credentials can be a motivating factor for learners within specific guidelines. The findings are summarized in Table 5. Studies generally relied on self-reporting from the credential earner. A study by Reeves et al. (2017) reported survey data from 779 participants in a MOOC and found “free and paid certificates are consistently and positively related to course completion.” However, in a relatively small subgroup, if the learner intended to receive a micro credential after a series of courses this was negatively associated with course completion. This finding was also found in a study by Lexman et al. (2019) in a case study of teachers enrolled in a professional development course. The course in that study required completion of multiple components in order to achieve the digital badge. The participants were motivated to complete the initial module of the course; however, the ultimate completion rate was less than 10% of those enrolled. Carey and Stefaniak (2018) found skills-based credentials create motivation, while simple participation credentials are not motivating. Lyndstrom and Dyjur (2017) found micro credentials did not increase motivation to initially take a course; however, they do seem to motivate learners to complete the course. In contrast, a larger study by Risquez et al. (2020) reported almost half of respondents indicated the micro credential was an extrinsic motivator to participate in the course. Studies by Iwata et al. (2019) and Ashcroft et al. (2021) found approximately two thirds of students surveyed indicated the ability to earn a micro credential served as a motivating factor in their level of effort in the course. The findings from these papers reveal micro credentials can be motivating for learners but should be structured in a way that is not overly complex.

Table 5. Methodologies for measuring the impact of micro credentials on student motivation

Case for Increasing Motivation	Case for Decreasing Motivation	Methodology	Measurement Tool	Source
	Students indicated low levels of increased motivation	Surveys of 35 students (23 responded)	Self-assessment surveys	Harmon and Copeland (2016)
-Motivation toward completing the tasks required in the course				
- Added benefit of taking the course and is perceived to be better than a certificate	Did not affect initial motivation to take the course	Reflections by one recipient and one facilitator	Descriptive	Lyndstrom and Dyjur (2017)
Micro credentials				

consistently and positively related to course completion	Intending to receive a credential based on a series of courses negatively associated with course completion	Analytic sample from 779 participants	Survey	Reeves et al. (2017)
If attached to skill-based credential	If attached to participation credential only	Interviews with 10 participants	Anecdotal evidence	Carey and Stefanik (2018)
Two thirds indicated earning badges motivated students toward autonomous study		Three-year study of student perceptions	Likert scale questionnaire	Iwata et al. (2019)
	Participants completed the initial module, but completion of the ultimate credential was only 10%	Case study of teacher professional development courses	Course completion rates and Interviews with participants	Lexman et al. (2019)
In Tennessee, rates for students hitting key benchmarks doubled	Results in Oregon were not as successful			
Results in Colorado unclear	Case studies	Results of benchmark testing	Perca (2020)	
Almost half of respondents indicated the digital badge provided an extrinsic motivator to participate in the course		Survey and focus group interviews with participants in an open course	Pre/post Surveys of 37 staff members from 9 institutions Focus Group responses	Risquez et al. (2020)
Two thirds responded they would exert more effort in the course if they could earn a micro credential		1,016 student and 124 employer responses	Likert scale surveys and open-ended interviews	Ashcroft et al. (2021)
60% indicated badges are a motivational aid		Survey and interviews with 110 educators	Survey and interview results	Hartnett (2021)

Conclusions, Limitations, and Future Research

Digital badges have risen as the most common form of micro credential utilized to recognize an achievement and often present the greatest ability to provide efficiency, reliability, and legitimacy in the minds of students. The literature indicates micro credentials have a significant place within higher education and, furthermore, its propensity to influence stakeholders provides a platform for future variations in enhancing traditional programs. Although several types of micro credentials are present in both public and private institutions currently, it would be wise to involve employers in this dialogue to understand which type is more beneficial for the organization. For micro credentials used for external outcomes (i.e., to validate skills sought after by employers), the more valuable credential would be from a source widely recognized and respected by these external stakeholders. Institutions wishing to get the highest return on these micro credentials, especially community colleges, would be advised to partner with employers and align the credentials with the most in-demand and yet under-supplied skills in the job market. The literature suggests such an alignment can create immediate value for numerous stakeholders. Further, there is no preference in terms of issuing authority among employers, as long as that authority has industry recognition and credibility.

Several research questions were addressed in this study centering around who values micro credentials the most, does it ultimately help students obtain employment, and what kind of value does it provide to a traditional degree. To that end, institutions and students value micro credentials the most, especially when it aligns to specific employer skill needs. There is no substantial correlation between students obtaining employment in a macro level sense, but there is an obvious draw when explicit employer needs are made public, and a specific micro credential can fill that gap. Academic administrators and executive corporate leaders will need to communicate effectively what the needs are to appropriately create micro credentials satisfying that need. Although micro credentials can be linked to academic degrees, many variations of them will need to be specialized and not necessarily in line with formal processes for credit.

Higher education is increasingly seen as an expanding ecosystem of products that meet various needs. The traditional degree forms a central hub of long-term value for most learners with micro credentials being enhancers to this standing process for its students, institutions, and faculty. For other learners not pursuing a four-year degree, micro credentials, stacked or otherwise, can be a more targeted and lower cost option to secure meaningful employment. However, higher education institutions should also pay close attention to views among the administration that strictly support micro credentials because of the perceived monetary value. Although it is understood new revenue streams will always remain a priority within academic institutions as they navigate fluctuations in enrollment and maintaining academic integrity. Assigning micro credentials as a “cash cow” would set unfair expectations in an already challenging market for educators and possibly alienate students who want specific training at low cost.

Though not explicitly stated in the literature, a best practice synthesized from it is educational institutions might consider outsourcing micro credentials as a sensible option, especially if they are being used to open doors of external opportunity. Given the value employers place upon the recognizability and credibility of the institution granting the credentials (Selvaratnam & Sankey, 2020; Ashcroft et al., 2021), as well as the time investment needed to maintain their integrity and keep its content updated

(Carey & Stefaniak, 2018), it is hard to say that higher education institutions should automatically choose to create their own micro credentials and the accompanying systems to maintain them. Under the right conditions, a vendor-supplied product may offer significant value and quality, particularly if the institution is an informed consumer. Part of achieving this is understanding the industry's current state.

The value of micro credentials noted in the literature cannot be extrapolated to mean micro credentials are generally valuable or make sense in other contexts, mainly due to the lack of theoretical research. The majority of the existing literature is empirical, and the existing theoretical research focuses considerably on opinions and narratives. However, a general takeaway is that micro credentials can have clear currency when they are aligned with high demand skills employers seek, especially when the shortage is acutely felt. On the other hand, it is reasonable to surmise that skill gaps that are less acutely felt will attract correspondingly less intense interest from employers. Further still on this spectrum, if we conclude micro credentials derive their value to employers from meeting their skills gaps, higher educational professionals should also not expect that simply creating their own micro credentials or adding them to a program means they have value external to the granting institution. Within the walls of a higher education institution, micro credentials may have pedagogical value in affecting student learning and motivation, but this is a separate consideration. And while some scholars may rightfully assert higher education is more than meeting employment needs of industry, it should also be acknowledged a common accreditation metric applied to the industry is employment outcomes of an institution's graduates.

As with any research study, there are inherent limitations. First, this study only included peer reviewed papers. No grey literature was included. The intent of the research limitation was to include studies in which micro credentials were introduced as an intervention in higher education, rather than anecdotal evidence, in order to ensure results were based on assessments. However, it is possible a few conference proceedings could exist. Further, only papers published in English were included. Additional papers could exist in the literature that were published in other languages.

Based on the key findings, there is considerable research that could be conducted to further fill the gaps in the literature. Most prominently is the lack of theoretical research to measure the impact and benefits of micro credentials. In addition, there is also a lack of a framework for implementing micro credentials in higher education. Many studies discussed the potential for scaffolding multiple micro credentials, yet they lacked detail on the best practices for implementation. Likewise, strategies for measuring learning gains and/or outcome mastery was mostly subjective and opinion based. Further studies should be conducted to provide a more standardized approach to measuring the impact of micro credentials on learning and knowledge retention. Existing studies were also conducted with very small sample sizes without control groups. Larger studies, perhaps in foundational courses where enrollment is higher, would provide stronger evidence of the impact of micro credentials. Finally, several studies mentioned the importance of creating a portfolio of micro credentials without providing a framework or best practices. Future research should also be conducted to determine best practices that would be preferred by employers.

References:

- Abramovich, S. (2016). Understanding digital badges in higher education through assessment. *On the Horizon*, 24(1), 126-131.
- Ahmat, N. H. C., Bashir, M. A. A., Razali, A. R., & Kasolang, S. (2021). Micro-credentials in higher education institutions: challenges and opportunities. *Asian Journal of University Education*, 17(3), 281-290.
- Ahn, J., Pellicone, A., & Butler, B. S. (2014). Open badges for education: What are the implications at the intersection of open systems and badging? *Research in Learning Technology*, 22. <https://doi.org/10.3402/rlt.v22.23563>.
- Ashcroft, K., Etmanski, B., Fannon, A. M., & Pretti, T. J. (2021). Microcredentials and Work-Integrated Learning. *International Journal of Work-Integrated Learning*, 22(3), 423-432.

- Beattie, S. (2014), June 30. Types of digital learning badges: Drawing on the Xbox achievement experience. Retrieved December 4, 2019, from HASTAC website: <https://www.hastac.org/blogs/scott-beattie/2014/06/30/types-digital-learning-badges-drawing-xboxachievement-experience>
- Behney, M. (2019). Synthesizing a digital badge for chemistry undergraduates. *Reference Services Review*.
- Billing, F., De Smet, A., Reich, A., & Schaninger, B. (2021). Building workforce skills at scale to thrive during – and after – the COVID-19 crisis. <https://www.mckinsey.com/business-functions/people-and-organizational-performance/our-insights/building-workforce-skills-at-scale-to-thrive-during-and-after-the-covid-19-crisis>
- Boud, D., & Jorje de St Jorje, T. (2021). The move to micro-credentials exposes the deficiencies of existing credentials. *Journal of Teaching and Learning for Graduate Employability*, 12(1), 18-20.
- Brereton, P., Kitchenham, B. A., Budgen, D., Turner, M., Khalil, M. (2007). Lessons from applying the systematic literature review process within the software engineering domain. *Journal of Systems and Software*, 80(4), 571-583.
- Brown, M., Mhichil, M. N. G., Beirne, E., & Mac Lochlainn, C. (2021). The Global Micro-Credential Landscape: Charting a New Credential Ecology for Lifelong Learning. *Journal of Learning for Development*, 8(2), 228-254.
- Carey, K. L., & Stefaniak, J. E. (2018). An exploration of the utility of digital badging in higher education settings. *Educational Technology Research and Development*, 66(5), 1211-1229.
- Cheng, Z., Richardson, J. C., & Newby, T. J. (2020). Using digital badges as goal-setting facilitators: A multiple case study. *Journal of Computing in Higher Education*, 32(2), 406-428.
- Cheng, Z., Watson, S. L., & Newby, T. J. (2018). Goal setting and open digital badges in higher education. *TechTrends*, 62(2), 190-196.
- Clements, K., West, R. E., & Hunsaker, E. (2020). Getting started with open badges and open microcredentials. *The International Review of Research in Open and Distributed Learning*, 21(1), 154-172.
- Copenhaver, K., & Pritchard, L. (2017). Digital badges for staff training: Motivate employees to learn with micro-credentials. *Journal of Electronic Resources Librarianship*, 29(4), 245-254.
- Ellis, L. E., Nunn, S. G., & Avella, J. T. (2016). Digital badges and microcredentials: Historical overview, motivational aspects, issues, and challenges. In D. Ifenthaler, N. Bellin-Mularski, & D.-K. Mah (Eds.), *Foundation of digital badges and micro-credentials: demonstrating and recognizing knowledge and competencies* (pp. 3–21). https://doi.org/10.1007/978-3-319-15425-1_1
- Gallagher, S. (2018). *Educational Credentials Come of Age: A Survey on the Use and Value of Educational Credentials in Hiring*. Boston MA: Northeastern University: Center for the Future of Higher Education and Talent Strategy. Retrieved from https://www.northeastern.edu/cfhets/wp-content/uploads/2018/12/Educational_Credentials_Come_of_Age_2018.pdf
- Gish-Lieberman, J. J., Tawfik, A., & Gatewood, J. (2021) Accepted: 17 November 2020 # Association for Educational Communications & Technology.
- Ghasia, M., Machumu, H., & Smet, E. (2019). Micro-credentials in higher education institutions: An exploratory study of its place in Tanzania. *International Journal of Education and Development Using ICT*, 15(1).
- Halavais, A. M. C. (2012). A genealogy of badges. *Information, Communication & Society*, 15(3), 354–373. <https://doi.org/10.1080/1369118X.2011.641992>.
- Harmon, J., & Copeland, A. (2016). Students' perceptions of digital badges in a public library management course. *Education for Information*, 32(1), 87-100.
- Hartnett, M. K. (2021). How and why are digital badges being used in higher education in New Zealand? *Australasian Journal of Educational Technology*, 37(3), 104-118.
- Hensiek, S., DeKorver, B. K., Harwood, C. J., Fish, J., O Shea, K., & Towns, M. (2017). Digital badges in science: A novel approach to the assessment of student learning. *Journal of College Science Teaching*, 46(3).
- Horstman, T., Tierney, G., & Tzou, C. (2020). Design principles for creating digital badges to support learning. *Information and Learning Sciences*.
- Hughey, J. (2020). Individual Personalized Learning. *Educational Considerations*, 46(2), 10.
- Iwata, J., Wang, S., & Clayton, J. (2019). Students' perceptions about the use of digital badges in an online English terminology course: a three-year study. *CALL and complexity—short papers from EUROCALL 2019*, 199.
- LaMagna, M. (2017). Placing digital badges and micro-credentials in context. *Journal of Electronic Resources Librarianship*, 29(4), 206-210.
- Levine, A., & Van Pelt, S. J. (2021). *The Great Upheaval: Higher Education's Past, Present, and Uncertain Future*. Johns Hopkins University Press. Baltimore, MD.
- Lexman, R. R., John, J., & Friedler, A. (2020). Campus-IL: Enhancing Teachers' Learning Experience. *South Asian Journal of Management*, 27(2), 189-216.
- Lindstrom, G., & Dyjur, P. (2017). From student to instructor: Reflections on receiving and issuing digital badges for educational development. *Transformative Dialogues: Teaching & Learning Journal*, 9(3), 1-4.
- Mah, D. K. (2016). Learning analytics and digital badges: Potential impact on student retention in higher education. *Technology, Knowledge and Learning*, 21(3), 285-305.

- Maina, M. F., Guàrdia Ortiz, L., Mancini, F., & Martinez Melo, M. (2022). A micro-credentialing methodology for improved recognition of HE employability skills. *International Journal of Educational Technology in Higher Education*, 19(1), 1-22.
- Mallon, M. (2019). Micro-credentialing. *Public Services Quarterly*, 15(2), 116-125.
- National Student Clearinghouse Research Center (2022). Spring 2022: Current Term Enrollment Estimates. <https://nscresearchcenter.org/current-term-enrollment-estimates/>
- Newby, T. J., & Cheng, Z. (2020). Instructional digital badges: Effective learning tools. *Educational Technology Research and Development*, 68(3), 1053-1067.
- Ostashewski, N., & Reid, D. (2015). A history and frameworks of digital badges in education. In T. Reiners & L. C. Wood (Eds.), *Gamification in education and business* (pp. 187–200). Switzerland: Springer International Publishing.
- Pelletier, K., McCormack, M., Reeves, J., Robert, J., and Arbino, N. with Maha Al-Freih, Camille Dickson-Deane, Carlos Guevara, Lisa Koster, Mechor, Sanchez-Mendiola, Lee Skallerup Bessette, and Jake Stine, 2022 EDUCAUSE Horizon Report, Teaching and Learning Edition (Boulder, CO: EDUCAUSE, 2022)
- Perea, B. (2020). Using Smaller Credentials to Build Flexible Degree Completion and Career Pathways. *New Directions for Community Colleges*, 189, 23-37.
- Reeves, T. D., Tawfik, A. A., Msilu, F., & Imek, I. (2017). What's in It for Me? Incentives, Learning, and Completion in Massive Open Online Courses. *Journal of Research on Technology in Education*, 49(3-4), 245-259.
- Rimland, E., & Raish, V. (2017). Design principles for digital badges used in libraries. *Journal of Electronic Resources Librarianship*, 29(4), 211-220.
- Risquez, A., Cassidy, D., & O'Suilleabhain, G. (2020). Badge of honour? An exploration of the use of digital badges to support a partnership approach to faculty development. *Australasian Journal of Educational Technology*, 36(5), 18-29.
- Roy, S., & Clark, D. (2019). Digital badges, do they live up to the hype? *British Journal of Educational Technology*, 50(5), 2619-2636.
- Ryan, R. M., & Deci, D. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55, 68-78
- Ryan, R. M., & Deci, D. L. (2002). Overview of Self-determination theory: An organismic dialectical perspective. In D. L. Deci & R. M. Ryan (Eds), *Handbook of Self-determination research* (pp.3-33). Rochester, NY: The University of Rochester Press.
- Selvaratnam, R. M., & Sankey, M. D. (2021). An integrative literature review of the implementation of micro-credentials in higher education: Implications for practice in Australasia. *Journal of Teaching and Learning for Graduate Employability*, 12(1), 1-17.
- Shields, R., & Chugh, R. (2017). Digital badges—rewards for learning. *Education and Information Technologies*, 22(4), 1817-1824.
- Tranfield, D., Denyer, D., & Smart, P. (2003). Towards a methodology for developing evidence-informed management knowledge by means of systematic review. *British Journal of Management*, 14(3), 207–222.
- Virkus, S. (2019). The use of Open Badges in library and information science education in Estonia. *Education for Information*, 35(2), 155-172.
- Wheelahan, L., & Moodie, G. (2021). Analyzing micro-credentials in higher education: A Bernsteinian analysis. *Journal of Curriculum Studies*, 53(2), 212-228.

Education Technology and the Campus of Tomorrow

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Keywords

Artificial intelligence (AI), Education technology (EdTech), Augmented reality (AR), virtual reality (VR), intelligent tutoring system (ITS)

Abstract

The campus of tomorrow emerges from the rapid adoption of technology for the classroom. Four key technologies will shape that future. They include augmented reality, virtual reality, mixed reality (AR/VR/MR), artificially intelligent education (AIEd), intelligent tutoring systems (ITS), and automated assessment tools. This brief article includes definitions, examples, and vignettes designed to provide the reader with a glimpse into the campus of tomorrow with implications for the workplace of tomorrow as well. We introduce you to our fictional virtual student, Candice Panadera (she/her) and the artificially intelligent, technology enabled campus of tomorrow.

Higher Education is racing toward the integration of a host of high technology applications representing “a digital disruption from within” (Thomas & Thorpe, 2018, p. 63). The pandemic accelerated the trend toward online education and the greater utilization of education technology (EdTech) in the classroom (Valverde-Berrocso, 2020). While the technology races ahead, educators may be forced to play catch up. In a recent presentation at the National ACBSP Conference, McCleskey and Melton (2022) discussed the impact of recent technological developments on the delivery of higher education. This brief article picks up that thread, discussing four emerging technologies in higher education, their applications, and their effect on the campus and classroom of tomorrow. These technologies include augmented reality, virtual reality, mixed reality (AR/VR/MR), artificially intelligent education (AIEd), intelligent tutoring systems (ITS), and automated assessment tools. The authors present these technology applications here through vignettes that follow the activities of our fictional student of the campus of tomorrow.

The Campus of Tomorrow

We observe Candice Panadera (she/her) starting her class at Future Business University (FBU). Candice dons her Virtual Reality (VR) viewing device and interactive gloves (both provided by FBU), starts the application software, and joins her virtual classroom. Candice sees herself seated in an Immersive Virtual Environment (IVE) and can move around and interact with objects in the environment, including learning resources, a virtual library, assignments, and various avatars. She uses her gloves to select objects, swipe through menus, and point toward options that appear on her VR viewing device. Actually, Candice is seated comfortably on her couch at home and attending her course asynchronously.

Augmented Reality, Virtual Reality, and Mixed Reality AR/VR/MR

Augmented reality (AR) combines digital information with the natural world presented in real time (Rauschnabel et al., 2022).

Virtual reality (VR) refers to an “immersive, artificially-constructed reality” (p. 2). Researchers often present the two concepts as interchangeable; however, they represent distinct technologies. Any user experience that combines the elements of both AR and VR by presenting both real and virtual objects is called mixed reality (MR). AR/VR and other 3-dimensional technologies, including holograms, represent the next generation of digital learning, also known as Classroom 3.0 (Fourtane, 2021). Currently, AR/VR technology assists in the study of medicine, the physical sciences, engineering, and other educational specialties where the requisite hands-on skills must be developed (Rajeswaran et al., 2018). Prospects for the future growth of AR/VR and MR technologies include using MR for simulated teaching and learning (Tang et al., 2020) and the continued development of expansive IVEs (Fitton et al., 2020).

The use of VR headsets in virtual environments (IVEs) plays a crucial role in interactive learning activities and student engagement (Ritter & Chambers, 2022). Additionally, AR/VR utilizes technology to create virtual field trips to provide students with exposure to physical locations and location-based learning without requiring a physical visit to those locations. The recent COVID-19-related lockdowns elevated the need for these types of technological capabilities.

Artificially Intelligent Education (AIEd) and Machine Learning

AI involves leveraging various technologies to create a specific device or construct to accomplish a task that previously required human input (Artificial intelligence: 7 questions..., 2022). Writing for a special report on AIEd titled “Artificial Intelligence: Where are we now?”, O’Brien (2022) stated that AI is already having a significant impact on higher education through adaptive learning to better serve students with disabilities, by offering complimentary access to course materials, and through freeing faculty from transactional tasks to pursue higher levels of impactful student interaction.

AIEd is a constellation of artificial intelligence and machine learning applications in higher education. Among these are intelligent tutoring systems, profiling and adaptive systems, and assessment and evaluation applications. Higher education institutions utilize AIEd to provide feedback on assignments, provide

tutoring, conduct assessments, grade assignments, create personalized learning opportunities, proctor assessments, and detect plagiarism (Brooks, 2022). AIEd can potentially reduce faculty workloads by 20-40 percent and reduce course preparation time by as much as 50 percent (O’Brien, 2022).

The Campus of Tomorrow

Candice decides to attend a tutoring session, so she selects the virtual menu option, her avatar appears, and she calls for her tutor. The tutor avatar appears seated next to Candice’s avatar. “Hola Candice, how can I help you today?” Candice customized her tutor’s avatar as a middle-aged Latina with kind eyes and a wide smile. She speaks with a slight accent and wears a simple cotton dress. Candice named her tutor Luisa, after her Abuela (grandmother in Spanish). Her memories as a young girl spending summers in Puerto Rico inspired the customization decisions Candice applied. The interaction continues:

Candice: “Hola, Luisa, I am ready for another session.”

Luisa: “We left off at the beginning of Unit Six, Organizational Culture. Shall we start there?”

Candice: “Yes, please.”

Luisa: “Have you completed the reading?”

Candice: “Yes, most of it.”

Luisa: “All right, let’s review.” What is the competing values framework?”

Candice spends the next 30 minutes discussing Unit Six. When she demonstrates that she does not fully understand some topics, Luisa provides mini lectures, suggests video links, and recommends rereading some sections.

Intelligent Tutoring Systems (ITS)

Intelligent Tutoring Systems (ITSs) simulate one-to-one personal tutoring and make decisions about the learning path of an individual student (Luckin et al., 2016). In a meta-analytic review of fifty studies of ITSs, Kulik and Fletcher (2016) found positive results for learning outcomes, with 92% of participants receiving higher

post-test scores than their counterparts who did not receive ITS tutoring. ITS opens the possibility of highly customized individual tutoring to underserved students and underrepresented minorities who might otherwise never have access to that level of specialized help (Artificial intelligence: 7 questions..., 2022).

ITS is already in use in some institutions. Previous research demonstrated that ITSs combined with embodied agents (avatars) could help students learn math more effectively and reduce math anxiety for high anxiety learners (Kim et al., 2017). Some ITS systems can provide highly sophisticated writing instruction with an automated feedback system (Nunes et al., 2022). Automated text evaluation is discussed in greater detail later in this paper.

The Campus of Tomorrow

Candice reviews the research paper requirements in her Organizational Behavior course and composes the first draft of her assignment while sitting on her couch and using a combination of voice dictation, typing on a virtual keyboard using her VR gloves, and a heads-up display editor. Once complete, she drags and drops the draft over to a virtual in-box labeled “writing help”. An automated writing assessment program reviews her writing instantly, and the hologram of the paper appears in the outbox. A floating message icon includes the number 27. Candice is a little disappointed that the writing assessment tool has made 27 suggestions. “OK,” she thinks, “let’s deal with this,” and clicks on the paper to open it and begin reviewing the suggestions related to mechanics, word choice, style, and formatting. One edit at a time, her writing will improve.

Automated Assessment Tools

Automated assessment of student writing, known as Automated Writing Evaluation (AWE), involves using technology to evaluate and score written text (Nunes et al., 2022). The latest advances involving machine language allow for sophisticated feedback and scoring based on latent semantic analysis using natural language processing (NLP). NLP methods include the capability to provide feedback on mechanics, grammar, word usage, style, structure, variety, and coherence of writing. Higher education institutions utilize these tools as both evaluative and formative assessment tools, and the applications

include a feedback engine designed to offer qualitative guidance on how students can improve their writing.

Technology as a Critical Bridge

Technology has been called the “critical bridge that connects the student and the instructor” (McCleskey & Melton, 2021, p. 315). This is particularly salient in the post-COVID-19 reality of virtual learning environments, asynchronous resources, and technology-enabled instructor engagement and immediacy. However, some scholars still refer to the promise of AIEd as hype, at least for now (Brooks, 2022). One reason potentially involves a lack of sufficient readiness for the latest technologies on the part of universities (McCleskey & Melton, 2022). In contrast, other scholars argued that higher education is uniquely capable of utilizing technology engagement and developing ways to cultivate AI and machine learning to solve the world’s most pressing challenges (Fleming, 2022). With the number of U.S. virtual workers expected to grow from 5 million pre-COVID to more than 25 million in the near future (Ramlall & Cross, 2022), the time is right to embrace the technologies that will guide both the campus and the workplace of tomorrow.

Shaping Educational Experiences to Create the Future of Work and College: An Essay

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For years now, it has been said that educators are preparing students for jobs that do not yet exist as technology and innovation change at exponential rates. At the same time, education has been criticized for moving slowly and maintaining traditional approaches and practices (Newton, 2019). The COVID-19 pandemic changed the world and prompted swift change at an incredible rate that proved education could be adaptive and agile when necessary. This essay will describe one college's experience and lessons learned from the COVID-19 pandemic using a participant observation methodology.

Chippewa Valley Technical College (CVTC) is in west central Wisconsin and serves a district consisting of 11 different counties. The College boasts offering over 120 unique programs and has a powerful reputation for its engaging and hands-on approach to learning (Chippewa Valley Technical College, 2021). The mission of CVTC post-pandemic states that "CVTC delivers innovative, applied, and flexible education that supports a diverse community of learners, improves the lives of students, and adds value to our communities." The words "flexible" and "diverse community of learners" were not part of the pre-pandemic mission statement.

The pandemic became real to CVTC on St. Patrick's Day in 2020. It was on that day, the Friday when Spring Break was starting, that the governor declared a "Safer at Home Order." This meant that the College would be closed to its students and employees. The remainder of this essay will focus on the Business, Arts, Sciences and Academic Initiatives division of the College through the lens of the division's academic leaders. The division includes all general education, business, and applied services such as cosmetology and culinary management courses, in addition to High School Academies that serve K12 school districts.

The division's executive dean serves on the Emergency Operations Command team and has experience with risk scenario case studies. During Fall 2019 the full division had reviewed, and updated business continuity plans as part of its charge from the liability insurance carrier. The dean carried these plans in her work tote for easy accessibility recognizing that it was a matter of time before the headlines of the gloomy outlook of the pandemic came to the CVTC region. Prior to the Safer at Home order, the division's full administrative staff participated in a crash course to learn how to use Microsoft Teams technology and One Drive to access files when not directly connected to the college's network. With the onset of the Safer at Home order naturally there was uneasiness, and there was never a more crucial time for the division's administration to lead.

Several fortunate coincidences allowed for a fast pivot in the Business, Arts, Sciences, and Academic Initiatives division to allow quality education to continue throughout the pandemic. The year prior, the College had invested in a new Learning Management System (LMS) and all courses were required to have a course shell built in the LMS while many courses had transitioned to offering online sections, including a pilot for a science lab course. Living in Wisconsin and navigating challenging winters with dangerous travel conditions had provided opportunities to flip instruction, sometimes for extended periods, to alternate delivery when weather conditions required the change. The Dean had developed a practice of sending communications that included video updates to the division's faculty on a weekly basis and divisional leadership emphasized the words of applied, flexible, and innovative regularly in those communications. These words were instrumental in creating the mindset of being able to adapt.

Quickly it was discovered that the business continuity plans were of little use. Risk scenario case study exercises were no match for the reality of the situation. Variables such as access to the college, classroom resources, and face-to-face delivery were “off the table.” The leadership team gathered and grounded itself in the college’s mission statement while they decided to divide out the workload of creating alternative delivery options for each of its programs. In the division there were several courses that could easily switch to fully online delivery. Other areas such as Science, Cosmetology, and Culinary Management required more thought. Several ideas were shared including flipping content to only include lecture-based work as many other sister colleges were doing. The faculty team, however, was committed to the mission of applied learning and focused on innovation. All three areas opted to develop resource kits for students to have at home so that the applied learning that is CVTC could continue. With the College closed and off limits, flexibility was key. Culinary relied on a local partner that created meal kits to help with its distribution. Science expanded its pilot and contracted with a lab in a box company to have kits delivered to students’ homes or developed labs consisting of common at-home materials. Cosmetology assembled and distributed kits to their students from one of the faculty member’s home doorsteps. Students could remain engaged in the type of education they had come to expect! The academic leaders provided the resources to the faculty to carry out these plans. Despite the challenges that faced learning, the disruption for CVTC’s students was minimized.

Following the initial continuance plans, priorities shifted. Back-up plans for all faculty were developed two deep for each course to cover when, and if, individual faculty members became ill with COVID. With courses continuing and coverage plans in place, the divisional leaders felt that the COVID operating procedures for the team had been established. The leadership team met daily via Teams for situation updates and to stay connected with one another. The team realized that the personal relationships among the divisional members and engagement with students needed to be a priority to keep spirits high and maintain the drive for continuing. Uncertainties facing students and divisional staff were evident, so personal connection with leadership was critical.

Several ideas were presented and trialed, and ultimately some core engagement strategies emerged. Each Monday, the leadership team would present a reflective prompt to the division that focused on instruction and demonstrated innovative technology for enhanced collaborative practices. Examples included using Padlet, Google forms, and Kami. The intent was that faculty would learn an innovative approach they could replicate to engage students, and faculty would stay connected with their colleagues. Each Thursday afternoon, divisional leaders would host a Teams chat session for 15 minutes with the division’s Program Directors and Department Chairs. This forum allowed for regular updates, asking questions, and modeling live chat sessions. Every Friday, the Dean would send a weekly communication and video recorded on the College’s LMS, and she would wear a t-shirt representing a favorite destination previously traveled to. The idea behind this was to have regular communication, a personal connection via video, and encourage the mind to remember times of travel for those who were struggling to be at home. The leadership team modeled engagement strategies so that they could demonstrate that connectivity and relationships were still possible even during challenging and distant times.

The brand and quality of courses and events that CVTC had developed a reputation for continued. The BASA team was known for its professionalism and its commitment to building community with its faculty. Birthday cards that were previously sent to faculty and staff, shifted to electronic cards during the pandemic. Faculty team building events that had occurred during regular operations shifted to virtual events including recipe sharing and dress up days at home. The faculty were sent college swag including coffee mugs to use during their online live classes to connect with the college brand and virtual backgrounds were used with pictures from the college classrooms and other landmarks for the same purpose. Eventually the academic year ended, and it was deemed a success. Every faculty member persevered to the end and course and program completion rates were higher than during pre-pandemic times (Chippewa Valley Technical College, 2021). The faculty, together with the students, had learned to help and support one another and stay focused on successful outcomes.

The time eventually came when the buildings reopened, and things could return to normal operations. While some faculty and staff longed to return to the prior normal, not everyone embraced returning to old ways. Innovative approaches and preferences had been tried and the world of work and education would have lasting changes. The college prioritized returning to face-to-face classes with a rationale that matched the student preferences.

Sustainable practices that continue in the division today include the increase in online and MyChoice delivery methods based on student preference. In addition, the College moved away from telepresence delivery methods that equipped faculty to reach students at multiple on-campus locations to Online Live delivery utilizing MS Teams and Zoom. Feedback from both faculty and students indicated that engagement with Online Live courses was higher than telepresence and increased course success rates was another position indicator, (Chippewa Valley Technical College, 2021). CVTC continues to utilize enhanced technology including a robust camera system with video recording features in Cosmetology to accommodate students in-person and at a distance. At-home lab kits for the Science Department have expanded and a new position was created to manage the kits and distribution process. Divisional leaders continue to connect with program directors and department chairs weekly using MS Teams chats to maintain accessibility. CVTC's district includes campuses across five different communities, and campus meetings remain virtual using Zoom or Teams to better reach faculty at the various campuses in a more equitable way.

The college also changed. It adopted a Weekly communication and video series called "The Weekly" that it shares with the entire college community, and the BASA division maintains their weekly communicate with updates and celebrations at that level. The college has expanded its meeting rooms to accommodate virtual attendees, which has increased program advisory committee participation. CVTC's open campus remote work practices now expand beyond faculty ranks and these lasting changes prompted an updated mission statement to include the word of flexibility and diverse community of learners, (Chippewa Valley Technical College, 2021).

The emphasis and modeling of a collaborative culture has always been important to the BASA division, so much so that norms and collective commitments are established and regularly communicated and referred to in conversations with faculty and staff. These norms include seeking to understand the "why," offering viable options, focusing on the student experience, and recognizing that everyone has a voice. These agreed upon norms were foundational prior to the pandemic and continue to ground the division's work post-pandemic.

During unprecedented times, when there was a great deal of uncertainty, CVTC's Business, Arts, Sciences, and Academic Initiatives Division used their tools and ability to focus and exercised creative thinking, innovation and unlearning of old ways. Assumptions of needing to maintain traditional ways were overcome. Notions that professional and academic work and relationships could only be accomplished inside brick and mortar, were proven wrong. The fact was that the Division maintained enrollments and student success and completion remained stable (Chippewa Valley Technical College, 2021). The period of the great disengagement turned out to be an opportunity to reengage and offer options for engagement (McClure & Fryar, 2022). Unintentionally, the college's equity work for connecting and belonging was propelled. Both students and staff now have options to best meet their needs and preferences for engagement, and choice has become a new norm.

As a learning college, Chippewa Valley Technical College and the Business, Arts and Sciences division continue to reflect and adjust. Post-pandemic, the college has unmistakable evidence of living its mission of delivering innovative, applied, and flexible education that supports a diverse community of learners, improves the lives of students, and adds value to our communities. The lasting impact of the COVID-19 pandemic is evident, and students and staff together continue to develop the best practices that shape the future of work and education through application of this ongoing case study.

References:

- 2022 CVTC Fact Book. (n.d.). Retrieved July 12, 2022, from https://issuu.com/chippewavalleytechnicalcollege/docs/cvtc_fact_book_2022?fr=sNzM3NzI2Mjc5MTM
- Chippewa Valley Technical College. (2021) Student Success Report. Unpublished internal company document.
- McClure, K. R., & Fryar, A. H. (2022, July 12). Opinion: The great faculty disengagement. The Chronicle of Higher Education. Retrieved July 2, 2022, from <https://www.chronicle.com/article/the-great-faculty-disengagement>
- Newton, D. (2019, January 2). The myth of jobs that don't exist yet. Forbes. Retrieved July 2, 2022, from <https://www.forbes.com/sites/dereknewton/2018/12/28/the-myth-of-jobs-that-dont-exist-yet/?sh=bf6e64570ec0>

Professors As Managers in a Changing Classroom: A Practical Approach to Preparing Students for the Future of Work

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Keywords

classroom management, coaching, industry experience

Abstract

As the future of work evolves and changes, so do the approaches to creating effective instruction in the classroom. Though the classroom and workplace environment constantly transforms, the need for human connection and proper coaching is still essential to quality education. Technology, simulations, and hands-on activities have been beneficial in preparing students for participation in the workforce. However, through lessons learned from teaching in an ever-changing educational environment, a connection still needs to be made to bridge theory and practice. This paper shares a brief six-step framework to prepare students for the future by professors taking a managerial approach to business instruction by instituting industry techniques for successful classroom management.

After nearly two decades in the fast-paced world of financial management and completing my terminal degree, I choose to make a dramatic life change to move from industry to academia. Having hired, onboarded, and coached hundreds of employees over my time as a manager, I was now ready to take my cumulative knowledge of employee development to the next generation of business leaders – college students. I began my transition in January of 2020. I was excited, nervous, and filled with uninformed enthusiasm for this new journey. Little did I know that my timing was about to intersect with a global pandemic never seen before in our lifetime. The concepts of social distancing, virtual classrooms, and HyFlex methods would become the norm in universities worldwide, even though graduate school provided no training to prepare for such adaptability and required flexibility. Regardless, I took an approach much different than the professors in my educational journey. I tackled the consistently changing academic landscape in

the same way as my time in industry; I chose to operate my classroom as a business manager.

This concept is not new and has been researched and theorized for generations (Burk & Wiese, 2018; Conroy Jr, 1989). My approach was based in practice and less theoretical than most university courses, but the only way I could see if this approach worked was to create a strategic plan and bring it to fruition. A common colloquialism in academics is to meet students where they are (Pransky & Bailey, 2002; Sunderland, 2014). Though this idea sounds nice, it is rarely put into action. As a manager, understanding the needs of your team, employees, and constituency is key to shaping the culture in which you are operating. The classroom is no different. As an effective manager knows their employees, I had to know my students. As a newly minted doctor, I chose to view students as valued employees rather than customers or unaware prospects. My strategy was simple yet effective.

Here are the key points and behaviors that took center stage in my plan to embrace the classroom of tomorrow to prepare future business leaders.

Professor as Manager Model

Step 1: Know Yourself

Too often, as professors, we feel we have to know all the answers and act as a sage on the stage (King, 1993) or guide on the side (Gilboy, et al., 2015). Let your students know who you are and let them know when you do not have the answers. Be truthful, transparent, and mindful of classroom management. Poor management is one of the leading causes of employee attrition (Hoffman & Tadelis, 2021; Nappinnai & Premavathy, 2013). Do not let ineffective classroom management cause poor student attendance, participation, and productivity. In management, the concept of mindfulness is critical to being fully present in all situations (Patel & Holm, 2018). Be present for your students just as a manager is there for their employees. Keep in mind that as the level of operational understanding between a new employee and a seasoned manager are very distant from one another, the knowledge difference between a professor with a terminal degree and an undergraduate student is ions apart.

Step 2: Know Your Students

Every term, each of my students has a required assignment where they have to be interviewed by me, and they interview me. In my experience, This is the only way to really get to meet students where they are. This small activity establishes a culture of mutual trust, respect, and open communication. When a manager takes over a department or organization in order to gain an intimate understanding of employee needs, goals, and opportunities for improvement, they usually solicit information from their employees to improve the odds of a successful managerial transition. When a professor brings in a class, they too should take an assessment of how to enhance the learning environment for each student.

Step 3: Create a Culture of Care

Viewing students as employees means creating and developing a culture of mutual care. Understanding what they are dealing with in their personal, professional, and academic careers is not enough. A professor as a manager

needs to show caring, empathy, and investment in building up their students (El Majidi, et al., 2015). Managers who have embraced the tenants of Human Resource Development (Garavan, 2007) understand the power of preparing people for the next level of their careers. A professor should do the same in developing students, not just as learners but as future employees and managers.

Step 4: Monitoring

In business, a common cliché is that a good manager always inspects what they expect (Kerzner, 2002). The classroom is no different. Seeking consistent periodic feedback is critical to determining the value of the subject matter being taught. Just as businesses hold staff meetings, employee surveys, and feedback sessions, the same must happen in the classroom. Some exercises utilized are the Hotwash Model (FEMA, n.d.), an after-event discussion and evaluation technique often used by firefighters. When implemented in the classroom, students are frequently asked for feedback at the end of each week or section to determine the effectiveness of the instruction. Other methods of gathering data include mid-semester surveys with hard-hitting questions, seeking personal feedback from high and low-achieving students, and the end of the term student evaluation. Collecting this information is not good enough; analyzing the data and making changes is of the utmost importance as students feel they have a voice in their education.

Step 5: Share Your Stories

As a student, most of the instruction I received was in the form of theories, calculations, and critical analysis. Though these are highly important to education as a whole, they do not allow students to understand how these constructs are used in the world of business industry. Sure there are case studies, flipped classrooms, videos, and news articles that can be used to supplement instruction (Herreid & Schiller, 2013). However, at the primary level, students still need to connect how these concepts influence commerce, organizational culture, customer service, and situational leadership. Just as a good manager coaches their employees with clear examples and local situations, an influential professor should share their own detailed stories of issues with strategic successes, managerial mistakes, and ineffective leadership. It becomes a reality when students can create a vision and connection with the topic. Theories become

real when instructed through a story and are no longer just abstract concepts.

Step 6: Turning Lessons into Practice

Unlike science students who can test their hypotheses in a lab through hands-on instruction, business students can be disadvantaged in practicing managerial operations. Employees often receive structured training when starting a new role that consists of orientation and on-the-job training (Bhakta & Medina, 2021). Students, when coached as employees, deserve the same sort of process. Both managers and professors are vested in their subordinates/students, and embracing this idea can be powerful. In the early part of the term, students are introduced to topics, allowed to make mistakes without severe consequences, and allowed to make necessary corrections. Just as a manager would not terminate a new employee for making a mistake in the initial stages of employment, a professor should think twice about being overly critical of a new student trying to understand a new subject matter. As the course continues, students take a more prominent role in managing processes, debating business ideas, and teaching each other. Allowing students to take greater control through active education not only solidifies the lessons of management but, on a small scale, will enable them to turn their ideas into practice.

Results

As a new professor, taking a managerial approach to teaching was a considerable risk, and one I was not sure would be successful. But as any good sales manager will tell you, the proof is in the pudding. Rather than explain my perceived success with this classroom strategy, here is a very small sample of the feedback that I have received from student reviews over the past two years:

- “I just wanted to take a minute to tell you how much I appreciate what your course has done for me and I’m sure other students too!! The amount of effort it must’ve taken to provide us with real resources that will actually help us out in the real world is something that no other professor has ever done for any of my classes, in the past so I wanted to say that personally, I greatly appreciate how much effort and genuine interest you put into organizing your classes, and if you haven’t heard it already, I can guarantee that I’m speaking for others in my class too!”

- “My background did not prepare me at all for taking this class, but I am proud to share that this professor and course made me prepared to turn my passion into a reality. This is my first class with this professor and in this short amount of time he became one of my favorite professors. Not only he is an expert in the field, but he shares his passion for Business through instruction. His teaching methods are remarkable and extremely helpful.”
- “I am really thankful for what you have taught me, I am only now recognizing how much you’ve taught me for my future job.”
- “The professor clearly has a lot of experience, so he is qualified to teach business courses. He often ties stories into material which makes them easier for students to understand how to apply the material.”
- “Awesome professor who really wants his students to learn the material he presents. His real life examples helped a ton in connecting the material to real world application.”
- “This professor always put forth effort into providing a class with real-world examples and first-hand experiences. He is always very open to feedback and flexible with scheduling which is greatly appreciated!”
- “I loved this course and learned so much. He had the best stories that helped connect to what we are learning about. He always made us feel important, and I love how open he was if we were having problems with a project. Overall, this was my favorite course this semester, and I hope to take classes from him again.”

Most great professors are used to seeing this type of feedback; however, in my opinion, these results stem from implementing a managerial model within the classroom.

Conclusion

Technology, instructional tools, internships, externships, and hands-on activities will continually evolve and change what the classroom in the future will look like. Both in-person and virtual instruction will embrace new pedagogical methods as time goes on, but not all future classroom aspects will be affected. What does not change is the need for human connection, coaching, and the need for professors to prepare their students for business

success. To provide valuable instruction that adequately prepares students for the work of tomorrow, professors need to embrace the challenges of today with agility, flexibility, and a focus on building students up for the next stages in their lives. The Professor as Manager approach is not a strategy that will work for everyone. Still, in my experience, the results have been phenomenal, and the

student feedback has been overwhelmingly positive. These musings are lessons learned in my short time in academia and ones that I hope can create more significant classroom successes for students and professors alike.

References:

- Bhakta, K., & Medina, M. S. (2021). Preboarding, orientation, and onboarding of new pharmacy faculty during a global pandemic. *American Journal of Pharmaceutical Education*, 85(3).
- Burk, C.L., Wiese, B.S. (2018). Professor or manager? A model of motivational orientations applied to preferred career paths. *Journal of Research in Personality*. 75, 113-132. <https://doi.org/10.1016/j.jrp.2018.06.002>
- Conroy Jr, P. V. (1989). The University Professor as Manager. *ADFL Bulletin*, 20(2), 11-16.
- El Majidi, A., de Graaff, R., & Janssen, D. (2015). Invest in what energizes students to learn: Investigating students' attitude towards debate in the foreign language classroom. *Journal of Language Teaching and Research*, 6(5), 924-932.
- FEMA. (n.d). Exercise Hot Wash. Federal Emergency Management Agency. Retrieved from: https://emilms.fema.gov/is_0130a/groups/39.html
- Garavan, T. N. (2007). A strategic perspective on human resource development. *Advances in Developing Human Resources*, 9(1), 11-30.
- Gilboy, M. B., Heinerichs, S., & Pazzaglia, G. (2015). Enhancing student engagement using the flipped classroom. *Journal of Nutrition Education and Behavior*, 47(1), 109-114.
- Herreid, C. F., & Schiller, N. A. (2013). Case studies and the flipped classroom. *Journal of College Science Teaching*, 42(5), 62-66.
- Hoffman, M., & Tadelis, S. (2021). People management skills, employee attrition, and manager rewards: An empirical analysis. *Journal of Political Economy*, 129(1), 243-285.
- Kerzner, H. (2002). Strategic planning for project management using a project management maturity model. John Wiley & Sons.
- King, A. (1993). From sage on the stage to guide on the side. *College Teaching*, 41(1), 30-35
- Nappinnai, M. V., & Premavathy, N. (2013). Employee attrition and retention in a global competitive scenario. *International Journal of Research in Business Management (IMPACT: IJRBM)*, 1(6), 11-14.
- Patel, T., & Holm, M. (2018). Practicing mindfulness as a means for enhancing workplace pro-environmental behaviors among managers. *Journal of Environmental Planning and Management*, 61(13), 2231-2256.
- Pransky, K., & Bailey, F. (2002). To meet your students where they are, first you have to find them: Working with culturally and linguistically diverse at-risk students. *The Reading Teacher*, 56(4), 370-383.
- Sunderland, M. E. (2014). Taking emotion seriously: Meeting students where they are. *Science and Engineering Ethics*, 20(1), 183-195.

Lessons Learned 2020-2022: A Reflection on Teaching Through and Beyond a Pandemic

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As an educator for almost 20 years, I have taught in a variety of modalities from face-to-face in-person (F2F) to hybrid to fully online asynchronous. Like most professors, I had to make changes, adjustments, and modifications to my teaching style and strategies in response to COVID-19.

The methods for education in the pre-pandemic world didn't necessarily work during the pandemic. Strategies and tactics that "worked" during the height of the pandemic didn't necessarily translate in our current environment. Education in the post-COVID landscape will need to be flexible to the ever-changing needs of the students and the educational environment. The following is a reflection on the lessons learned from 2020 to 2022 on teaching through and beyond the pandemic.

In the Beginning

I was teaching mainly F2F courses for the traditional undergraduate population (Trad) in the Spring of 2020. When in-person instruction shut down in mid-March due to COVID-19, university administration pivoted Trad courses to a distance education modality for the remainder of the Spring semester.

In the beginning of the pandemic, it wasn't about students attending classes, learning the material, completing assignments, writing papers, and performing well on tests. The priority for students was survival.

Students had base-level concerns for food and shelter. They had immediate financial worries because someone in their family was laid-off of work. Some were socially isolated and dealing with depression or other mental health issues. There were some students who were paralyzed by fear and others shut out the worries of the world, put their heads down, and threw themselves into their studies. While students' needs and responses were different, for many, the focus was on survival, not education.

From an educational perspective, though, most students and faculty were not prepared to shift to distance learning let alone online education. Many were simply trying to survive the overwhelming academic changes and challenges of the Spring 2020 semester.

Students had to shift their perspective. Trad faculty also had to make the shift. Everyone had to interact in an online environment, which they hadn't planned on doing. Because most Trad professors didn't utilize the full potential of our learning management system, Blackboard, students were not very familiar with it. Navigating and utilizing the Blackboard system was very foreign and often frustrating.

Having taught online courses, I had all of the course materials already available and ready for my F2F students in Blackboard. All they had to do was access it. It sounded simple enough. I instructed students to go to the Blackboard material including lecture notes, prerecorded instructional videos, and a variety of other online resources that were ready and available to them.

While it was simple, it wasn't easy. Students were scared. They were experiencing extreme stress and trauma. They were extremely distracted and overwhelmed. Students were in information overload and were having difficulty functioning. I recognized this and quickly went into action. I employed five themes for outreach and strategic intervention: 1) extra communication, 2) virtual meetings, 3) personal emails and phone calls, 4) grace and patience, and 5) understanding and empathy (Browning, 2020). These intervention techniques were helpful, and many students succeeded in passing my course despite the unprecedented circumstances.

In the Midst

While the university planned on returning to F2F instruction in Fall 2020, local public health authorities required campuses to remain closed. In response, the University

implemented a synchronous remote instructional modality which was defined by the university as, “. . . [T]he faculty member is streaming live to students for the lecture and class discussions. Classes will occur during the regularly scheduled class times. All students will be online at the same time with the professor” (California Baptist University, 2020).

This was the best solution available at the time. While there were numerous challenges, we often found solutions to overcome them.

Challenge: Students preferred to be detached spectators. They did not want to engage in the course during class live class sessions. Instead, they preferred to passively watch the class.

Solution: In smaller classes, this was relatively simple to remedy by asking questions to specific students. In larger classes, engagement was more difficult to track and manage in real time. A common solution employed was to use a polling tool or website.

Challenge: Students were often multitasking or otherwise distracted. While they “attended” the class session by logging into the meeting, they would turn their cameras off. Then, they would do other activities such as check email, complete other assignments, engage in social media, lay in their bed and sleep, or even leave the room.

Solution: It can be challenging to deter multitasking, despite how ineffective it is (Rosen, 2008; Tugtekin, 2020). One way to combat it was to require engagement through graded activities such as quizzes, assignments, or polls which were completed live and in real-time at various points during the class session.

Challenges

Students were dealing with a lot of stress. One type of stressor was brought about by personal or family financial concerns. For many students, their families endured a significant economic shock from the shutdowns one or more family member was working reduced hours, laid off, or furloughed. With reduced incomes, they had to figure out how to pay their bills and put food on the table.

Students came down with COVID themselves, had to care for family members who were sick with COVID, or lost family members to COVID. Many students were physically and emotionally exhausted and grief-stricken.

Solution: Students had a lot more on their minds and on their plates than simply going to class and earning good grades. As cliché as it is to say: These were unprecedented times. The key to helping students with these types of challenges was to be not only reasonable and flexible with requirements and expectations but also to show understanding and empathy. In reflecting on how I changed and evolved my teaching practices and how I interacted with students, I affectionately refer to it as “the year of abundant grace.”

Despite the challenges, there were significant benefits to synchronous remote instruction:

Students had more than a month to mentally prepare themselves for the synchronous remote learning environment. Having experienced distance education the previous Spring, students had a better idea of what was going to happen and what to expect. For example, they knew there would be a heavy reliance on technology, so they were flexible with learning new applications such as WebEx, Zoom, and Microsoft Teams.

The faculty was more prepared as well. We had the summer months to prepare materials which were more appropriate to the teaching modality. I personally enhanced my interactive handouts to provide more detailed information to students in an easier to use format. In addition to improving content and content delivery, faculty also had additional training with technology.

In the synchronous remote environment, we had scheduled live online class sessions. Although it was not the same as F2F, it gave me the opportunity to engage and interact with students. I was able to lecture, have discussions, and answer questions in real-time and provide an atmosphere that was as open and inviting as possible.

I continued to use the five intervention techniques (Browning, 2020). For example, I sent personalized emails to check in on students and discuss their progress in the course. When I personally reached out to students, I

received a good response. Not only was I able to help them in the course, but I was able to support and encourage them in other aspects of their academic, professional, and personal lives.

While it wasn't perfect, my students and I met and overcame many challenges and saw numerous benefits of synchronous remote classes. That experience helped me remain flexible when we returned to F2F instruction.

Turning the Corner

For the 2021-2022 academic year, the public health status improved such that the university transitioned back to offering F2F classes. Some students were ecstatic to be back on campus in the classroom environment. Others were not enthusiastic and, instead, wanted to remain in a fully synchronous remote modality.

Due to different student preferences and circumstances as well as concerns over close contact in classrooms in Fall 2021, I received approval to modify three of my Trad courses to be "hybridized." We met F2F on Mondays and Wednesdays. Then on Fridays, we met virtually through synchronous remote class sessions. These hybridized courses seemed to be a reasonable and appropriate compromise to provide an in-person experience and yet be mindful of an uncertain public health environment.

Based on observation and anecdotal feedback from the students, they enjoyed the hybridized modality model and appreciated the flexibility of synchronous remote classes on Fridays. They could be anywhere in the world and still attend class. It was especially beneficial for specific students. For example, students with compromised immune systems could learn from home. Another example is student-athletes. Once athletic events resumed and student-athletes were traveling again, they didn't necessarily have to miss class if they were traveling on Fridays. They had the opportunity to attend every Friday class session because they could log in from their busses, planes, or hotels.

Even though the course was taught in the classroom environment for two of the three class sessions each week, I noticed that students exhibited similar propensities for detached and multitasking behaviors in the physical classroom

and was comparable to those displayed in the synchronous remote environment. For example, students would sit in class but would work on homework assignments.

Aside from typical classroom management techniques of speaking to the class and then to individual students, I interwove more small group discussion and hands-on problem-solving activities during class sessions to take them away from their computers and bring them into the moment. Connecting students in small groups was an effective strategy to engage detached and multitasking students. It was easy for students to multitask and detach in a large class environment where the professor was lecturing. It was much more difficult to ignore or disregard their peers in small groups.

In the classroom and beyond, I was very attentive to students. Not only did I continue with the five intervention strategies (Browning, 2020), but I also purposefully worked to build a strong rapport with them. I offered office hours at different times of the day, in different formats, and in different locations on campus. If students weren't comfortable talking to me in my office, I reserved classroom space each week for a less formal and more familiar setting.

I intentionally engaged students in casual conversations before and after class. Knowing that I couldn't talk with each student every week, I sent personalized emails to each student periodically. In those emails, I encouraged them in the course. I specifically asked them to respond about how their semester was going, asked if they needed help or support to be successful, and solicited feedback on the course.

Creating emails and corresponding with each student was labor intensive and time consuming, but this investment was invaluable. Students were responsive. Once students understood that I truly cared for them not only as students but also as people, the door opened to additional conversations. It allowed students to view me as someone who was on their side, was there to help, and cared about their overall success and well-being.

Moving Forward

Because of the flexibility and benefits, our administration decided to maintain some level of synchronous remote

course offerings for the 2022-2023 academic year. As this is currently based on observation and anecdotal feedback, further research is needed to study student preferences for F2F, synchronous remote, and “hybridized” (F2F and synchronous remote) learning environments.

There were many lessons learned through the pandemic. As a result, I was able to improve the educational experience for my students.

One thing is clear: We aren’t going back. We need to continue evaluating our teaching strategies while being flexible to change, update, and modify our techniques to meet the changing needs of our students and the environment in which we work.

References:

- Browning, J. (2020). The best laid plans: One professor’s response to the COVID-19 global crisis. *Transnational Journal of Business*, Special Edition, 16-19.
- California Baptist University. (2020). *Providing Live Synchronous Instruction*. Riverside, CA: Author.
- Rosen, C. (2008). The myth of multitasking. *The New Atlantis*, 20, 105–110.
- Tugtekin, U. (2020). The myth of multitasking: How “Doing it all” gets nothing done. *Contemporary Educational Technology*, 12(2), 1–3. <https://doi-org.libproxy.calbaptist.edu/10.30935/cedtech/8330>

Equity Diversity and Inclusion (EDI) and the Online Classroom

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Abstract

A global pandemic is a global disaster. It disrupts the status-quo. The COVID-19 pandemic disrupted the routines of students and instructors and caused an unprecedented shift to online teaching and learning. This article argues that the shift to online classrooms can advance equity, diversity, and inclusion among learners and instructors. The argument is based on my teaching experience as a racialized professor. I compare my lived-experience when I taught in-person classes before the pandemic, and when I taught online classes during the pandemic. I also compare my observations of my students' learning experience in in-person class settings before the pandemic, and their learning experience in online classes during the pandemic. In online classrooms, my academic authority was more acknowledged and respected than in in-person classrooms. Also, there was an increase in the interactions among students who are Black, Indigenous, and People of Colour (BIPOC) and non-BIPOC students. As more higher education institutions embrace online courses and course sections, not as an exception due to the pandemic, but as fixtures of the institutions, then the future classrooms will likely be equitable and inclusive.

Introduction

With the outbreak of COVID-19 in Canada, the pandemic waves crashed on educational activities across the country. The lockdown orders by the government led to shifting most on-campus learning activities to online platforms. Some instructors, and learners perceived the shift as an inconvenience (Chen et al., 2022). Nonetheless, it was imperative that all educational institutions abide by the government's decisions. As a result, higher institutions were closed to in-person learning. Students no longer needed to commute between their homes and the campus. They did not have to be in close proximity to the instructor before attending classes. During the pandemic lockdowns, teaching and learning in most higher institutions was facilitated online.

In this article, I apply a reflexivity method to examine my teaching experience during the pandemic and draw insights about the future of tomorrow's classrooms. At the time of the first wave of the pandemic, I was an instructor at a college in Ontario, Canada. I was teaching

post-graduate diploma courses to local and international students. According to Fook (1999, p. 12), reflexivity focuses on the influence of certain aspects of one's life and the context which influences one's observations of actions and events. The use of the reflexivity method allows me to critically observe how I was situated in the classroom before the start of the pandemic and during the pandemic. It also allows me to consider the students' interaction, not only from the perspective of an instructor, but also from the perspective of my racialized background. I compare my lived-experience when I taught in-person classes before the pandemic, and when I taught online classes during the pandemic. I also compare my observations of my students' learning experience in in-person class settings before the pandemic, and their learning experience in online classes during the pandemic. Based on these observations, I draw insights on what the classroom of the future would be for people from BIPOC backgrounds, and argue that online classrooms will advance equity, diversity, and inclusion between instructors and learners, and among learners.

The next section of the article discusses the different changes that occurred across many higher institutions at the onset of the pandemic. It identifies the equity, diversity and inclusion (EDI) initiatives that were introduced in some higher institutions and highlights the experience of BIPOC instructors in classrooms. After this, I present the detail of the observations and my location and positioning within this. The last section concludes the article. It discusses the importance of supporting online classrooms, increasing access to online classrooms for BIPOC students, and enabling them to choose their preferred mode of learning. It also notes that increased support from higher institutions is needed, so that the students' choice will not become detrimental to their learning and hinder them from the academic success they require for job success.

Equity, Diversity, and Inclusion in Classrooms

At the wake of the of the Black Lives Matter movement (Szetela, 2022) there was an emergence of reckoning in higher institutions, about the opportunities that are available to individuals from BIPOC backgrounds. For example, a Canadian college embarked on a new initiative that sought to investigate the level of representation in the workforce, at faculty level and department levels. The college aimed to build an "equitable (institution), free from racism and bias" (Seneca, 2022). Also, a Canadian university introduced a new management position for confronting discrimination head-on (University of Toronto, 2022). While the results of these interventions will be revealed over time, the level of attention dedicated to EDI cannot be denied (Tamtik and Guenter, 2019). In many institutions, the EDI interventions brought to light the inequalities and inequities that exists. They gave insights into the challenges that BIPOC instructors and students face in classrooms. EDI showed how BIPOC instructors (especially females) experience disregard for their position, disrespect for their qualifications, and poor student evaluations (Bavishi et al., 2010; Cramer & Alexitch, 2000). They also highlighted how BIPOC students go through institutions, sometimes navigating the pangs of exclusions, rejections, and unfair penalties incited by their backgrounds (Hussain, 2022; James, 1995).

There is still a long way to go before attaining equality and equity for all in academic and career pursuits, as well as in eliminating barriers to academic and career success. However, the changes made to the classroom settings due to the onset of the COVID-19 pandemic, predominantly, a shift to online classrooms, seem to enable improved EDI. It is also likely that the EDI gains will not only remain in classrooms but will be carried on to the workplaces.

In the next section, I discuss the EDI gains that I observed in my online classroom.

Reduced Emotional Labour

The online classroom created a space where I encountered less physical scrutiny. The students were aware that I was teaching from a dedicated workspace in my home, where I live with my family members, whom I love and cherish. Facing the students from this space allowed them to humanize me. Therefore, I exerted less emotional labour of coping with untoward mannerisms and acts of malignity. I taught more and thought less about how to manage students' acceptance of my ethnicity and my accent. Whereas in in-person teaching, instructors have to be in-front of the class, an online classroom is void of this physical 'sacred' space for knowledge experts. Online classrooms allow the instructors to be a part of the class.

Also, in the online classrooms, the reliance on digital link instead of physical contact shielded me from unspoken demonstrations of displeasure towards me. It was possible for me to focus more on the course's topics and the students' understanding of what I was teaching, since I couldn't easily see the very few students who may be rudely rolling their eyes or turning to their phones. As such, I was not constantly haggling within me whilst teaching, whether to respond to the students' uncouth behavior or not. Also, I did not have to deliberate on what I could do to prevent the experience of discrimination and racism. The diminished emotional labour allowed more focus on students' understanding of the topics and their performance in the course assessments.

Increased interactions with BIPOC students

Canada's multiculturalism reflects in higher institutions that are situated in urban locations. In my classrooms, there are students from diverse backgrounds. Despite the cultural diversity among the student population, I observed limited interactions between students from different cultural backgrounds. Oftentimes, the students who are from a specific cultural background would sit together and choose to work together. In the online classrooms, I observed a different approach. Students related cross-culturally. Ideas were shared more readily. Importantly, BIPOC students were not isolated and ignored.

Cultural-based group formations in the classrooms and the workplace keep people in 'silos'. They learn nothing about others, and do not update what they know about the world. Of what use will be multiculturalism, if it does not result in building synergies, by drawing lessons from other cultures to close knowledge gaps, and help in making informed decisions? When students relate more easily with people from other backgrounds, it is likely that this practice will diffuse to the workplace. BIPOC employees will more likely receive warm smiles from colleagues, be more readily included in conversations, and enabled to thrive in their roles.

Increased cultural competence and emotional intelligence

As discussed above, there was increased interactions with the students from BIPOC background, in the online classes. The cultural enclaves that had dominated most of the in-person classes were swapped for multicultural groups. With the increased interactions among students from diverse cultural backgrounds, it is likely that the students learnt about different cultures from their peers or became more open to learn about other cultures. When we learn about differing culture, we have a better understanding of their ways of life, appreciate alternate and/or unfamiliar stories, and act with compassion towards others.

In relations to the workplace, employees seek employees with cultural competence and emotional intelligence. While

intelligence quotient may aid the ability of a candidate to secure a job, emotional intelligence will be required to sustain the position. According to Clark and Polesello (2017), developing cultural competence and demonstrated emotional intelligence enhances leadership capabilities. As such, a culturally competent and emotionally intelligent workforce will likely result in a workplace with increased employee retention and job productivity.

Conclusion

It is known that online classrooms are not new. However, the COVID-19 pandemic necessitated a halt to most in-person classes. This made online classes to be the dominant instruction mode during the pandemic. This article aimed to present the Equity, Diversity, and Inclusion benefits that I observed in my online classes. As a racialized instructor, I observed that there was more regard for my qualification and job position, which helped to reduce emotional labour. Also, BIPOC students increased their participation in the classes and students from other backgrounds interacted more with BIPOC students. The article notes that this increased interactions among students from diverse backgrounds will increase the students' cultural competency. It also suggests that the increased cultural competency will benefit workplaces.

If the campus of tomorrow would be mostly situated online, we must ensure that BIPOC students are not left behind. There should be provisions for internet access and the relevant technology devices for students to participate in their classes and other campus activities. Institutions that constrain all courses to have only in-person classrooms may be doing a disservice to some students. In the classroom of the future, students should be allowed to choose their preferred mode of learning, whether in-person, online, or hybrid. This will enable students to learn how to make informed decisions at school and at work.

This article does not disregard the challenges that BIPOC students face in the process of completing their higher education. Instead, it brings them to the fore. While doing so, it highlights the possibilities for change and identifies online interactions as a possible tool for addressing EDI in the classes and in the workplace.

References:

- Adam Szetela (2020). Black Lives Matter at five: Limits and possibilities. *Ethnic and Racial Studies*, 43(8), 1358-1383.
- Bavishi, A.; Madera, J.M. and Hebl, M.R. (2010). The effect of professor ethnicity and gender on student evaluations: Judged before met. *Journal of Diversity in Higher Education* 3(4), 245–256.
- Chen, W., Brenes, D. and Bergerson, A.A. (2022). 'Teaching online and caring for students and colleagues. In: A.A Bergerson and S.R. Coon (Eds.) *Understanding Individual Experiences of COVID-19 to Inform Policy and Practice in Higher Education*, Routledge, New York.
- Clark, J.M. and Polesello, D. (2017), Emotional and cultural intelligence in diverse workplaces: Getting out of the box. *Industrial and Commercial Training* 49(7/8), 337-349.
- Cramer K. M. and Alexitch L. R. (2000). Student evaluations of college professors: Identifying sources of bias. *Canadian Journal of Higher Education* 30(2), 143–164.
- Fook, J. (1999). Reflexivity as Method. *Annual Review of Health Social Science* 9(1), 11-20.
- Hussain, M. M. (2022). The policy efforts to address racism and discrimination in higher education institutions: The case of Canada. *Center for Educational Policy Studies Journal* 12(2), 1-21.
- James, E.C. (1995). Multicultural and anti-racism education in Canada. *Race, Gender & Class* 2(3), 31-48.
- Seneca, 2022. Seneca Au Large. <https://www.senecacollege.ca/about/aularge.html> Accessed July 30, 2022.
- Tamtik, M. and Guenter, M. (2019). Policy analysis of equity, diversity and inclusion strategies in Canadian universities – How far have we come? *Canadian Journal of Higher Education* 49(3), 41-56.
- University of Toronto, 2022. Creating a culture of belonging: Jodie Glean appointed Executive Director, Equity, Diversity & Inclusion. <https://people.utoronto.ca/news/jodie-glean-appointed-executive-director-equity-diversity-inclusion/> Accessed July 30, 2022.

The Campus of Tomorrow: Transforming Students into Resilient Leaders of Tomorrow through Remote Real World Consulting Projects

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Abstract

A global pandemic is a global disaster. It disrupts the status-quo. The COVID-19 pandemic disrupted the routines of students and instructors and caused an unprecedented shift to online teaching and learning. This article argues that the shift to online classrooms can advance equity, diversity, and inclusion among learners and instructors. The argument is based on my teaching experience as a racialized professor. I compare my lived-experience when I taught in-person classes before the pandemic, and when I taught online classes during the pandemic. I also compare my observations of my students' learning experience in in-person class settings before the pandemic, and their learning experience in online classes during the pandemic. In online classrooms, my academic authority was more acknowledged and respected than in in-person classrooms. Also, there was an increase in the interactions among students who are Black, Indigenous, and People of Colour (BIPOC) and non-BIPOC students. As more higher education institutions embrace online courses and course sections, not as an exception due to the pandemic, but as fixtures of the institutions, then the future classrooms will likely be equitable and inclusive.

Introduction

Gannon University business strategy and analytics faculty have embraced a variety of pedagogies and technologies to create a remote synchronous live client consulting program that develops students from around the globe into resilient world class leaders. Drucker defines leadership as, "Leadership is the lifting of a person's vision to higher sights, the raising of a person's performance to a higher standard, the building of a person's personality beyond its normal limitations" (Drucker Institute, 2011). Resilience has been defined as "positive adaptation despite adversity" (Luthar, 2006). Rather than creating obstacles that make education more challenging, recent global events have set the stage for the development of new pedagogies that prepare students to become members of inclusive highly productive globally distributed teams. Experiential learning is replete with pedagogical benefits (e.g., Kerner, 2018). Remote student consulting has traditionally been a challenge in education. Depending on the class, students embrace remote technologies to collaborate and serve as consultants who work closely with real world clients to either

develop implementation road maps for their clients to explore and/or to develop comprehensive strategic business plans for true strategic advantage. Through a strong collaboration between the Dahlkemper School of Business, the Erie Technology Incubator, the Small Business Development Center, and the Northwest Pennsylvania Innovation Beehive Network (a collaboration of four universities), Gannon University faculty provide students with team-based semester-long real-world client consulting projects that incorporate all requisite content for their assigned courses. Faculty not only serve in the traditional role of instructors but also serve as mentors and coaches as students apply newly learned capabilities in real world settings. Instruction transcends the classroom into environments that simulate guided internship experiences. Clients in a variety of sectors, both profit and nonprofit, domestic and international, have been served. Truly a win-win-win synergistic environment for everyone involved. Success of the program is supported by stellar comments from participating students, clients who students have served, and faculty who instruct students in subsequent

classes. Over several semesters faculty have developed best practices so that this new instructional methodology can be replicated and scaled for each new semester. Rather than creating insurmountable challenges, recent global events have created exciting new opportunities for faculty to develop world class leaders who can provide solutions and navigate the path forward during globally uncertain times. The following narrative provides details regarding implementation and management of the project from a faculty point of view.

Timeline

There are five distinct steps in management of the remote real world consulting project: project initiation, scoping, project phases, comprehensive oral and written reports, debrief and feedback.

Faculty/Client Project Initiation

Faculty initiate projects by vetting and meeting with clients before the semester begins. Faculty describe the project and assure commitment from the client. Deliverables are determined and a delivery timeline is established.

Client/Student Project Scoping

Faculty provide students with project management tools and the students meet the client. Student teams are assigned, team charters are prepared, and the project is time-mapped.

Project Phases

Students provide clients with phased deliverables. Oral and written status reports are provided by the students. Students ensure they are on the right track for clients. Students are asked to provide feedback to their peers.

Comprehensive Oral and Written Reports

The project culminates with comprehensive oral and written reports to the client by the students. The reports tie the request from the client to all work performed during the project.

Debrief and Feedback

Clients and faculty provide students with feedback. Students are asked to complete the peer grading and self-reflection documents.

Deliverables

Students are asked to provide the client with three overall deliverables. These include a comprehensive business model canvas, a business plan, and pitch deck/presentation. Working with clients on these three deliverables prepares students for resilient leadership when they are given the opportunity to lead their own organizations.

Business Model Canvas

The first deliverable is a business model canvas (Osterwalder & Pigneur, 2010). The business model canvas helps students develop an overall, “30,000 foot view” of the client’s company to ensure understanding of internal and external dynamics. The business model canvas explores interactions between the client’s value propositions, customer segments, customer relationships, channels, key partners, activities, key resources, revenue streams, and cost structure. Development of the business model canvas often helps clients develop new and deeper insights into their own businesses.

Comprehensive Business Plan

Next, students are asked to prepare a comprehensive business plan that will assist the client in achieving their mission and strategy. The comprehensive business plan consists of ten sections: executive summary, description of the business, marketing, operations, management, finances, critical risks, harvest strategy, milestone schedule, and supporting appendices.

Pitch Deck/Presentation

Finally, students prepare a pitch deck and accompanying presentation for the client. The pitch deck helps the client when presenting to potential customers, vendors, funding organizations, and angel/venture capitalists. The pitch deck consists of eleven components: introduction, problem, solution, team, SWOT analysis, competitors, comparison matrix, patents, sales revenue strategy, financial projections, and funding ask.

Supporting Documentation

Three primary supporting documents are incorporated in administration of the project. These are a team charter, peer feedback forms administered during each presentation, and peer grading forms administered at the end of the project.

Team Charter

In order to replicate the real world, faculty assign student teams to ensure a diversity of backgrounds and work experiences on each team. Ideal teams reflect all functional areas in a real world business. Team charters help support teams as they move through the four primary stages of Tuckman's Model of Group Development: forming, storming, norming, and performing (Tuckman, 1965; Tuckman & Jensen, 2010). The team charter begins by asking students to provide their contact information. Next, the teams are to meet and provide four items:

- 1 How the team will work together and commitment/contributions expected of each team member
- 2 How work will be assigned along with roles and responsibilities of each team member
- 3 Primary communication method(s) between team members
- 4 The process for dealing with conflict in the team

Faculty draw upon the charter when dealing with team management issues. Faculty direct students to revise the charter when the team expresses concerns that the charter is not effective.

Peer Feedback

Peer feedback is an excellent tool to encourage engagement and are a source of rich feedback (Van Popta et al., 2017). Students provide peer feedback when teams other than their own are presenting. Peer feedback consists of two parts: a grading rubric for quality and content of the presentation and a series of questions to provide substantive feedback to presenting teams. The questions include the following:

- List two factors or considerations this student team presented especially effectively.
- List two questions that you would ask the team if you were the client.
- What two recommendations regarding either presentation style or content areas would you give the presenting team to make their next presentation stronger?

Peer Grading

Each student completes a peer grading form at the end of the semester to assist the professor in gauging the team members' level of learning and contribution. Peer grading helps guard against social loafing as each student's level of contribution is partially assessed by their teammates. Teammates assess members of their team on five types of contribution: team dynamics, interest, and enthusiasm; research; oral presentations; written reports; project leadership and management. To ensure self-reflective learning faculty ask the students the following questions:

- What did you learn from this experience?
- What do you think went well?
- What would you have done differently, given the opportunity?
- What would you like to have known or practiced before starting the project?
- Do you have any other comments or suggestions about the project?

Student Feedback

The transformational nature of this revolutionary new pedagogical paradigm can be observed through the following sample comments from students:

"I learned how to be a project manager and lead a group through something. In addition, I learned that listening to clients is really important and more when you are working face-to-face with them in consulting. It was a great experience and I wish I can do it again."

"Entire experience of working with a live client has been great. I have learned how to professionally interact with clients, understand how a company works, and think out of the box. I also learnt how to identify a problem, understand the reason why the problem exists, and try to develop a solution for the existing problem."

Best Practices and Lessons Learned

Faculty in remote real world consulting environments serve as professor, mentor, and coach to both students and clients.

Best Practices in Regards to Students

In order to set the stage for success, faculty need to consider the project through the eyes of their students. Regarding students:

- Communication is key
- Every student has a speaking part during oral presentations
- Peer feedback during presentations
- Watch team size to guard against social loafing
- Rehearsals are vital. Rehearsals build confidence.
- Coach presentation skills (Who talks/listens/watches? Who takes notes?)
- Repeat client requests. Make sure students and client are on the same page.
- Coach students to encourage and not overwhelm clients.
- Check technology and final content before live meetings with clients.
- Coach and encourage students for confidence.

Best Practices in Regards to Clients

Project success also requires that faculty consider the project from the client's point of view. Regarding clients:

- Continued communication is key

- It's all about building trust
- Preliminary planning is vital for success
- Ensure client commitment. The client needs to be available to students.
- Client is in the driver's seat regarding consulting deliverables
- As trust grows, the client can change or expand the list of deliverables. Communicate with your client so that you don't overwhelm your students.
- Build a healthy client pipeline.
- Partner with clients in developing students into leaders

Conclusion

Today's students have much potential to develop into a leader of trustworthy influence but needs to understand why they are asked to perform tasks in order to provide faculty with permission to transform them. Gannon University has taken the challenges presented by the last two years and used them to open doors to exciting new pedagogical development. A new pedagogy has been developed that transforms students into resilient leaders by having them serve on remote consulting teams to real world clients. This model is effective in allowing faculty to transform students into leaders regardless of the type of environment or challenges that students may encounter in the world of tomorrow.

References:

- Drucker Institute. (2011, October 3). You're No Leader – At Least Not Without Practice. Drucker Institute.
- <https://www.drucker.institute/thedx/youre-no-leader-at-least-not-without-practice/#:~:text=Leadership%20is%20the%20lifting%20of,essence%20of%20leadership%20is%20performance.>
- Kerner, R. (2018, March 13). Five advantages of experiential learning. Insights. <http://www.northwell.edu/news/five-advantages-of-experiential-learning>
- Luthar S.S. & Chicchetti D. (2000). The construct of resilience: A critical evaluation and guidelines for future work. Child Development. 71(3) 543–562.
- Osterwalder, A. & Pigneur, Y. (2010). Business Model Generation. Wiley.
- Tuckman, B. W. (1965). Developmental sequence in small groups. Psychological bulletin, 63(6), 384.
- Tuckman, B. W., & Jensen, M. A. C. (2010). Stages of small-group development Revisited1. Group Facilitation, (10), 43.
- Van Popta, E., Kral, M., Camp, G., Martens, R. L., & Simons, P. R. J. (2017). Exploring the value of peer feedback in online learning for the provider. Educational Research Review, 20, 24–34.

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