Cracking the Code: Online Education for Modern Leadership

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Abstract: This study, Cracking the Code: Online Education for Modern Leadership, examines professors' perceptions of the institutional, pedagogical, and technological challenges associated with online education in Canadian higher education. The literature review suggested that online education is a permanent and scalable approach that can expand exponentially with effective pedagogical methods and quality assurance. Strategic leaders may encourage the adoption of technological AI tools, advanced infrastructure, and training for students and professors. The research employed a phenomenological qualitative methodology, involving discussions with professors across Canadian institutions to address the two research questions. Based on findings, the primary research suggested that online education may help address significant issues for educational institutions by focusing on 1) data privacy, 2) infrastructure, 3) security, and 4) technology. Findings highlight the potential of a blended education system that combines the strengths of online and face-to-face learning, empowering both professors and students. Ultimately, this research contributes to the ongoing discussion of expanding online education in the Canadian education system, considering the needs and expectations of both students and professors, with a focus on business leaders.

Keywords: Blended learning, Educational leadership, Online education, Strategic leadership, Technology Adoption

1. Introduction

This qualitative phenomenological study investigates teachers' experiences of online education in Canadian higher education, with particular attention to pedagogical, technological, and institutional challenges. A sound research project begins with straightforward, uncomplicated ideas that are easy to understand and process (Creswell & Creswell, 2018). The two research questions addressed in this study are: How do online and face-to-face (FTF) strategies differ for educational leaders at higher education institutions in Canada? How does technology challenge online education at higher educational institutions in Canada? While previous studies have examined online learning broadly, limited research has explored professors' lived experiences regarding leadership, infrastructure, privacy, and technology challenges in Canadian higher education following the COVID-19 pandemic. This study seeks to address that gap through a phenomenological exploration of professors' perspectives.

1.1 Research Questions

This study addresses the following research questions:

> RQ1: How do online and in-person teaching approaches differ for Canadian higher education professors?
>
> RQ2: What technological challenges affect online education in the Canadian higher education system?

2. Literature Review

In essence, the study aims to understand the challenges faced by strategic leaders in Canada's online education system. It provides information on transformational theory within online education for higher education leaders, upper management, professors, and staff. This section reviews relevant prior literature on the online education system. The literature review offers a deeper understanding of the various challenges faced by strategic leaders in online education in Canada. It highlights the factors contributing to these challenges and provides effective strategies to overcome them. The section provides an overview of the strategic challenges and benefits of online education leadership, compares online learning with face-to-face education, and examines how leaders, professors, and students can effectively navigate online education. Additionally, it discusses the lack of pedagogical approaches for professors and emphasizes the importance of quality assurance in online learning.

2.1 Online Education Leadership's Strategic Challenges

Face-to-face education is a traditional learning system that has been used for centuries. This method is preferred for providing quick, on-the-spot feedback, assigning tasks promptly, respecting diverse learning styles, and fostering clear communication between professors and students. It allows professors and students to quickly and effectively understand more information and richer content by observing body language, interests, and

voice cues. The opportunity to connect with students, network, and collaborate as a team is more evident in face-to-face education (Fish & Snodgrass, 2019). Face-to-face learning encourages students to feel motivated and well-connected with their peers, promoting real-time interaction. They are less distracted and more focused because professors hold them accountable in real time for their projects. It also encourages critical thinking outside the box, as real-time class discussions are highly valued. Professors are also responsible and accountable for students' learning, as they receive timely feedback and can adjust the course content accordingly. This setting may provide a familiar environment for leaders, a comfort zone for leaders, professors, and students to engage in traditional learning methods (Stoian et al., 2022).

Strategic leaders in educational institutions initially did not focus on online education because they believed face-to-face education was superior and more conducive to learning. Their strategies, policies, and procedures may aim to increase gender equity, especially for women and people of colour in educational institutions, and to include refugees and international students from marginalized communities and developing countries (Bystydzienski et al., 2017). Developing this set of strategies, policies, procedures, processes, and rules is only possible when strategic leaders understand their target student demographics and students' needs. This is much easier in face-to-face education, as students are more visible to professors and staff. Their daily interactions help strategic leaders discover what is needed to develop a holistic and effective strategy that benefits everyone at the macro level within the institutions. Therefore, a strategy centered on diversity and inclusion has a positive impact. Educational institutions may strive to create a diverse and inclusive environment in both online and face-to-face modes of delivery, where everyone feels welcome (Kizzie, 2022). Upper management and professors are agents of cultural change, given their daily interactions with students. Meaningful change may occur when the needs and desires of the target market are clearly understood by leaders and upper management (Bystydzienski et al., 2017). Diversity, equity, and inclusion may be strengthened when gaps are identified, enabling us to find, understand, and address issues with practical solutions, and to implement realistic plans that bring everyone together with respect, kindness, and dedication (Khaliq, 2022).

However, strategic leaders can effectively collaborate with upper management, professors, staff, and students because they can quickly see the results of their policies and rules; the actions and outcomes are clear to all internal and external stakeholders. Engaging both internal and external stakeholders is essential for the success of educational institutions. Internal stakeholders include students, professors, staff, strategic leaders, the community, and the board of governors. External stakeholders encompass the government, partners, and customers. They play a significant role in institutional effectiveness and sustainability (IGI Global Disseminator of Knowledge, 2019).

2.1.1 Advantages of Face-To-Face Learning

The most significant advantage of face-to-face learning is the opportunity for synchronous engagement. Face-to-face classes occur at scheduled times, demonstrating the commitment of both professors and students. If neither party attempts to make lectures more engaging by using relatable, current information, students may not attend class or might use their cell phones or play video games on their laptops during lessons. Leaders can observe results in real time and adjust educational strategies accordingly, enabling timely improvements. They and professors can identify what works and what does not, creating social benefits through learning and applying knowledge to case studies and practical projects. Classroom training helps build personal relationships, confidence, engagement, and increased focus, while providing instant clarification of doubts and individual attention when needed (Feng et al., 2021).

Face-to-face learning supports personal leadership growth. Face-to-face environments may encourage greater engagement and accountability among participants. They foster a sense of community and offer opportunities to think differently or take risks that might not be available in online learning (Keane et al., 2022). Face-to-face learning keeps everyone connected, aligned, and informed. It may help reduce miscommunication and misunderstandings. It is faster and more efficient, and it fosters peer trust (Henny, 2016).

2.1.2 Comparing Online Learning to Face-to-Face Education

However, online learning cannot replace face-to-face learning activities, as they are distinct parts of the education system. They may serve complementary roles within higher education (Bhutoria, 2022). Students prefer face-to-face classes for math, general science, and laboratory work; online courses cannot fully replace face-to-face instruction, as they provide both theoretical and practical learning. This suggests that face-to-face learning will remain important for the next century, unless technology significantly transforms our mindsets and

lifestyles. “Interpersonal interaction remains an important component of collaborative learning and student engagement and face-to-face learning helps promote interaction and open communication. Students’ experiences within the learning community and their identities as students are shaped by teaching methods and technology (Nortvig et al., 2018).

2.2 Navigating Online Education: Leaders, Professors, and Students

The mission of higher education is evolving in tandem with the changing nature of the workplace. The reach, impact, and relevance of educational content must be updated to reflect a changing world. Some scholars and policy commentators argue that traditional degree structures are being challenged by alternative credentials, flexible learning pathways, and labour-market demands (Belsky, 2019). Teaching and learning are complex, and research has shown that factors beyond teaching style alone influence them. Teachers play an integral role in students’ mental and emotional growth, as they interact directly with them daily alongside their parents, siblings, and peers (Khaliq, 2021). The presence of professors in online settings, student interactions, teaching and content, the connection between online and offline activities, and campus- and practice-related activities define online education for a student (Nortvig et al., 2018). Dealing with the workload, teaching preparations, technological issues, and other pandemic-related challenges has exhausted professors, as they are expected to deliver higher-quality content than before (Power et al., 2022).

2.3 Lack of Pedagogical Approaches for Professors

Developing leadership in students is a vital part of higher education; however, the lack of effective pedagogical methods by experienced professors has made it more difficult for students to reach their full leadership potential in their chosen fields (Skalicky et al., 2020). Professors and leaders must understand the importance of delivering programs that develop the skills and capabilities employers expect in the post-pandemic world. Employees who add extra value at work are valued and have better opportunities for future growth because they are committed and willing to go the extra mile when needed (Armstrong Jr., 2020). Recognizing different leadership styles and their varied applications across diverse target audiences, such as students, could help close the gap between the demand for and supply of workers in the market (Skalicky et al., 2020). Leaders may focus on long-term growth in the emerging online education trend, given the large student market, the post-pandemic shortage of skilled workers, and ongoing technological advancements (Khaliq, 2018).

2.4 Quality Assurance in Online Learning

Leaders in online education may help ensure quality across online programs by leveraging technology to streamline operations. They may also regard degrees, diplomas, certificates, and short courses as valuable and high-quality, alongside traditional education programs (Bliss, 2019). Student satisfaction and the quality of education are directly linked, which the Perceived Session Quality Scale can measure in online synchronous learning. These findings suggest that designing a well-structured session flow, encouraging discussion and idea exchange among participants, providing evidence-based knowledge, maintaining up-to-date information, and using diverse online learning tools enhance the quality of online education (Czahajda & Černko, 2021). Students often multitask during online classes, either using their cell phones or attending to other chores while keeping their cameras turned off. Therefore, the implemented retrieval practice (RP) suggests that Students may retain learning content more effectively, even after 7 days, without multitasking. This may contribute to improved online learning experiences. In retrieval practice, students purposely recall information without using their cell phones; the fewer distractions, the more effective the learning (Khaliq, 2022). However, students may experience loneliness, lack of support, technical difficulties, weak internet connections, and low motivation. Nonetheless, online learning encourages students to develop technological literacy (Khaliq, 2018). The COVID-19 pandemic has sparked a global educational movement, compelling students and professors to utilize technology to continue teaching and learning (Khaliq, 2020).

3. Methodology

This qualitative phenomenological study examined professors’ experiences with online learning in Canadian higher education before, during, and after the COVID-19 pandemic. Conducted through Zoom interviews, the study explored pedagogical, technological, and institutional challenges associated with online education. The study included 18 professors from two Canadian institutions with experience teaching online: Cambria College in British Columbia and Fanshawe College in Ontario.

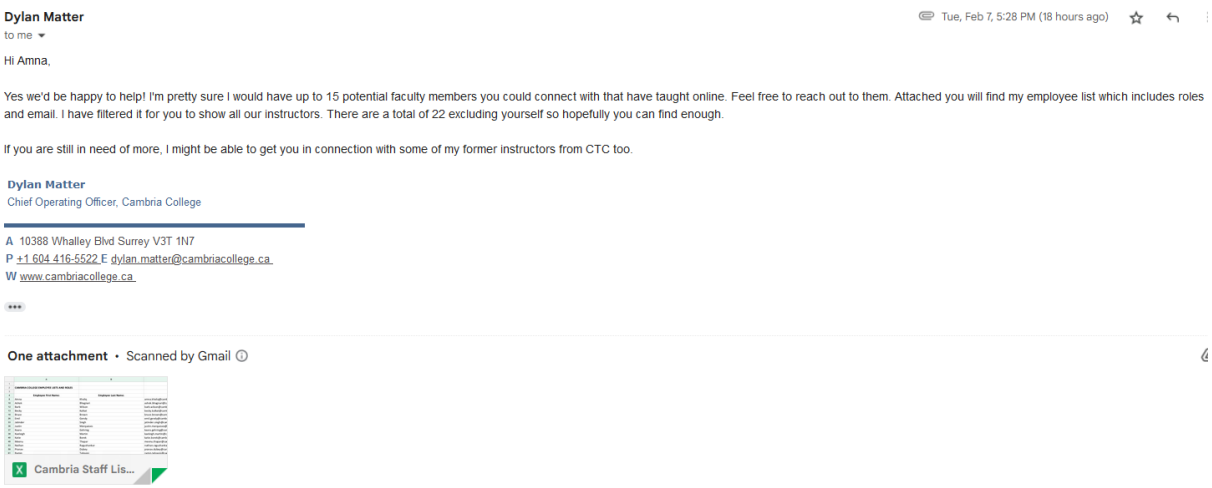


Figure 1: Permission E-mail from Cambria College

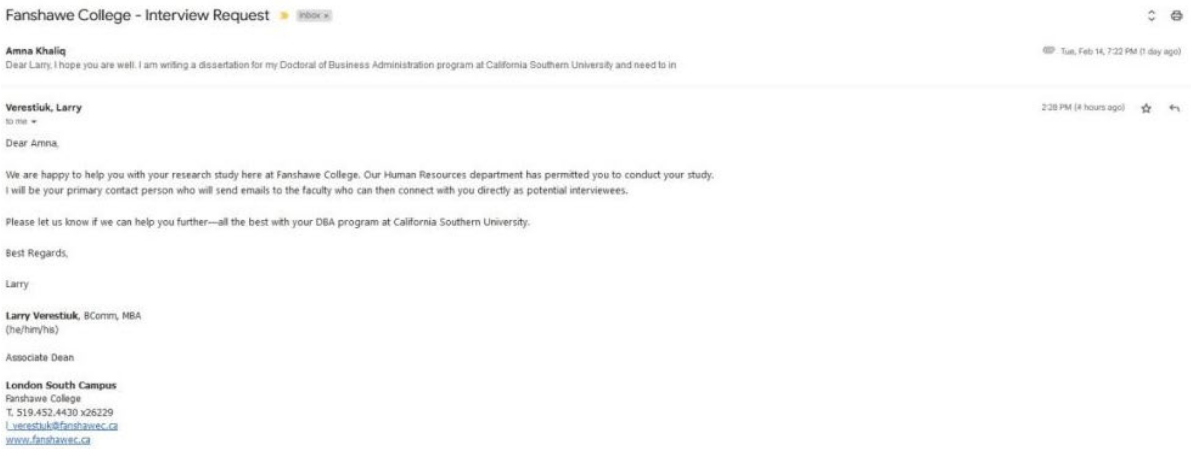


Figure 2: Permission E-mail from Fanshawe College

Participants were recruited through purposive sampling based on their experience with online education. Interview responses were analyzed using thematic analysis to identify recurring patterns related to pedagogical engagement, digital literacy, infrastructure, privacy, security, and blended learning. Themes were reviewed and refined to ensure alignment with the research questions. Participants received an invitation letter outlining the study's purpose, scope, data collection procedures, and ethical considerations prior to participation.

3.1 Qualitative Results

This study addresses the following research questions:

> RQ1: How do online and in-person teaching approaches differ for Canadian higher education professors?

3.1.1 Student Engagement and Classroom Interaction

All 18 participating professors reported that online teaching posed greater challenges than face-to-face teaching, particularly regarding student engagement, technological reliability, and classroom interaction. Students appeared more comfortable in face-to-face courses; however, many developed greater confidence in online learning following the COVID-19 pandemic. Professors indicated that online course content may need to be kept up to date and relevant to maintain student interest. Various teaching methods and strategies were used to encourage peer interaction and engagement in online classrooms. Professors also expressed interest in greater control over online learning management systems, including camera visibility during tests and monitoring of participation during lessons.

Professors suggested that students' personality types influenced their online learning experiences and participation levels. Extroverted students appeared more comfortable asking questions and interacting with peers. Participants emphasized the importance of creating a supportive, comfortable online environment in which students felt encouraged to raise concerns and participate without fear of judgment. Weekly virtual sessions and anonymous polls were identified as possible strategies to support student engagement and communication.

3.1.2 Digital Literacy and Technology Training

Professors indicated that digital literacy and technological advancement remain important components of online education. Students and professors were required to address technical challenges during virtual lessons, creating a need for updated technology training and support. Participants also noted the importance of ergonomic home office setups for online teaching and learning environments.

Furthermore, professors indicated that course content may benefit from regular updates, and learning objectives may need to reflect diverse learning methods and experiences throughout the course. International students, particularly those with limited prior exposure to digital learning environments, may benefit from introductory training in Microsoft Office, Zoom, and internet navigation before beginning online classes.

3.1.3 Multitasking and Participation Challenges

Professors reported challenges related to student multitasking during online lectures, including eating, completing household chores, or disengaging from class discussions while cameras remained off. Repeated interruptions and reduced participation were identified as concerns that affected the online classroom experience for both professors and students. Participants suggested that institutions may consider clearer policies regarding multitasking, participation, and academic integrity in online classrooms to support student attentiveness and engagement.

3.1.4 Blended Learning and Practical Skills

Professors strongly believed that online education may not always provide students with sufficient practical work experience and hands-on training. Participants suggested that virtual and augmented reality technologies may support innovative thinking and strengthen connections between education and evolving workplace expectations. Professors described using presentations, discussions, simulations, and games to assess students' theoretical knowledge alongside practical applications.

Participants also highlighted the importance of career preparation within online education. Professors may support students in developing resumes, cover letters, and interview skills to help prepare them for future employment opportunities. Demo interviews and experiential online activities were identified as potential approaches to strengthen practical learning.

RQ2: What technological challenges affect online education in the Canadian higher education system?

3.1.5 Technology, Accessibility, and Institutional Growth

Rapid technological advancement continues to reshape the delivery of online education and institutional operations within Canadian higher education. Participants indicated that technology may support student enrollment growth, institutional collaboration, and accessibility through partnerships with local and international institutions. Professors also noted that technology provides increased flexibility in course delivery and communication while supporting automation in grading, communication, and learning management processes. Additionally, online learning may create opportunities for students to work full-time while pursuing their education independently.

3.1.6 Digital Literacy and Technology Access

Professors reported that technology also creates challenges within online education. Students may require digital literacy skills to navigate online learning platforms and effectively adapt to new technological tools. Participants emphasized that unequal access to reliable internet services and advanced technological devices may contribute to digital inequality among students. Continuous technological training for professors was also identified as important for the effective use of online educational tools, although participants noted that such training may increase institutional costs.

3.1.7 Privacy, Security, and Online Safety

Participants identified privacy and cybersecurity concerns as ongoing challenges in online education. Viruses, hacking, and breaches of personal information were viewed as significant risks within educational institutions. Professors indicated that institutions may benefit from implementing robust backup and security systems to help address potential online threats and protect sensitive academic information.

3.1.8 Student Isolation and Institutional Competition

Professors also reported that online learning environments may contribute to student isolation and reduced motivation because peer interaction and support are less visible than in traditional classrooms. Additionally, participants noted that expanding online education may intensify competition among educational institutions seeking to attract students. Concerns were also raised regarding the authenticity and quality of some self-directed online certificates offered through external educational platforms. Participants emphasized that institutions may require reliable technological infrastructure to support the long-term sustainability and credibility of online education systems.

4. Recommendations

For the research paper "Cracking the Code: Online Education for Modern Leadership," the author believes that data privacy, infrastructure, security, and technology play a significant role in expanding the online education system in Canada.

1. **Data Privacy:** Online education collects a lot of information and data on students, including their personal and professional information, learning attitude, and grades. It requires consent and control by educational institutions, which can raise concerns among students about how to navigate complex privacy regulations. Therefore, educational sanctions indicated a prioritization of data privacy to prevent the compromise of sensitive information. They could only collect necessary data for academic purposes and refrain from storing sensitive information unless absolutely required.
    a. **Access Control:** Only authorized administrators and teaching professors may have access to students' information. Audit third-party edtech tools for compliance with privacy standards, such as PIPEDA in Canada, is suggested. Professors and students may receive cybersecurity training at the start of each semester to refresh. And it is important to obtain explicit student consent for third-party tools such as LMS, Zoom, Teams, and proctoring software. A data breach response team must notify students within 72 hours if the data is compromised.
2. **Infrastructure:** Education institutions may need to have a reliable infrastructure ready to adapt and expand online education. The internet bandwidth may need to be sufficient to handle the load when students are simultaneously logged in to their online LMS. Additionally, educational institutions may benefit from having extra devices, such as tablets, mobile phones, and wearables, so students can borrow them when their own devices are out of order, thereby avoiding disruptions to their education. They could require device encryption, antivirus software, and regular security patches for bring-your-own-device (BYOD) policies. AI technologies may be used to flag regularly occurring potential breaches. Backups may help protect against data loss, and cloud providers may need to be thoroughly vetted for their adherence to strong privacy and security standards.
3. **Security:** Educational institutions may only give access to students by authorizing them to take online classes and use their LMS system. A double-verification system may help support academic integrity in online learning. IT teams could ensure that multi-factor authentication (MFA) is implemented for students, staff, and professors. The systems are protected by strong passwords, anti-virus, anti-malware, and firewall protections that may be installed and regularly updated. Awareness of phishing and cyber threats may help strengthen institutional cybersecurity practices. Students' records and sensitive academic information may need to be protected from unauthorized access and hacking. The IT department may play a role in maintaining the confidentiality of lectures and discussions. Regular security audits may help ensure the IT environment remains safe and resilient.
4. **Technology:** Technology and online LMS create challenges and opportunities simultaneously for students and professors. However, Technology training for both professors and students may be important for effective online learning. This will ensure they are compatible with various online

learning methods, technologies, and devices, and know how to work effectively on the system when technological systems are unreliable, inaccessible, or insufficiently supported. Promoting digital skills may be considered a priority within online education systems. Students and professionals may receive training in various operating systems to create a seamless learning environment for all. All tools may help support data encryption and privacy settings. Integration between systems must be secure and seamless to help prevent glitches and other security issues. Institutions may benefit from adopting emerging technologies and providing accessible technical support to students, staff, and professors in online education to ensure their smooth and effective use within the education system.

4.1 Blended Learning

Based on these recommendations, blended learning is the most effective approach for both professors and students to explore in the online education system, as it leverages the strengths of both learning methods to create a personalized learning experience that utilizes technology effectively. It will help students and professors navigate the education tools more effectively. This may support the long-term sustainability and accessibility of Canadian higher education. Online learning emphasizes flexibility, accessibility, cost-effectiveness, increased engagement and feedback, customized learning patterns, and the effective use of technology. Given the recent changes and visa restrictions affecting international student enrollment in 2024, as well as the requirement to take a certain percentage of online courses, this policy may need to be reconsidered to create a fair educational system that minimizes discrimination based on gender, race, and socioeconomic status.

5. Limitations

This study was limited by its qualitative design and relatively small sample size of 18 professors, which may affect generalizability. Additionally, the findings reflect participants' perspectives within Canadian higher education and may not generalize to all institutional contexts.

6. Conclusion

Addressing these challenges in navigating the expanding online education for Canadian business leaders requires a support system from educational institutions to professors, staff, and students. This research paper compared the online and face-to-face strategies for professors in the higher education system. While face-to-face learning provided an interpersonal learning environment, it required physical presence. Online learning may expand accessibility and convenience by breaking geographical barriers for students.

However, navigating these challenges requires business leaders who must make online education easy by adapting to various strategic programs, such as expanding technological infrastructure, implementing security protocols and privacy regulations, and providing training for students and professors. This may contribute to a more inclusive and supportive digital learning environment. It will foster an engaging online education that promotes technological integration, meaningful virtual interaction, and online assessments within the digital landscape.

Education in Canada has continued to evolve since the COVID-19 pandemic, and it now requires modern leadership to adopt an online learning approach that combines the strengths of both online and face-to-face learning. The findings suggest that blended learning may offer a promising approach if institutions invest in pedagogical design, digital infrastructure, staff development, student support and robust privacy safeguards. Professors' development and student support programs will empower all stakeholders in the education system to effectively leverage the strengths of each strategy, benefiting students and expanding the higher education system in Canada.

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Ethics Declaration

Trust and confidentiality were maintained throughout this phenomenological qualitative research study involving professors and their respective educational institutions. The participants were all volunteers interested in the study's purpose. Some participants had the opportunity to review questions in advance to ensure they were comfortable speaking about the topic. The researcher followed all IRB recommendations before data collection. The consent forms were e-mailed to participants with the institution's permission. Institutional permissions were obtained from participating colleges prior to data collection (see Appendix A). The researcher made a conscious effort to minimize bias by setting aside her thoughts and beliefs to ensure bracketing of the data.

AI Declaration

This research paper was created with the help of Grammarly and ChatGPT software for word-smithing, language editing, and grammar. All analyses, interpretations, findings and final academic decisions remain the author's original work.

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