Learning In The New Digital Era: Are Polytechnic Education Institutions Up For The Challenge?
Are There Lessons To Be Learnt From Sun Tze's Ancient Text "The Art of War"

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*Essays advance a new idea, summarize a development, or initiate or engage in discussion. They may be narrower in scope than the above categories, but the subject matter should be of general scholarly interest.

Abstract
Rapid and necessary changes to the delivery of education in the post-secondary setting during COVID challenged our traditional ways of thinking, being, and doing within higher education. Preserving and promoting academic integrity during these uncertain times were challenging and required a focused, thoughtful, and deliberate shared approach. One faculty within a large urban Canadian post-secondary setting set out to strategically plan efforts that would support and promote integrity within their Faculty of Health Sciences & Wellness. A framework co-created by one of the authors served to anchor the discussions and planning, ensuring initiatives that effectively reach out to students, faculty, staff, and leadership are being realized through deliberate actions that engage the different groups within our community. Examples include an extended membership with the International Centre for Academic Integrity for our leaders, a newly established Community of Practice for interested faculty and staff, and focused campaigns like the Boost and Bolster fall campaign for students, faculty, staff, and leadership. Lessons from this work could offer other higher educational organizations suggestions for similar work.

Introduction

If you're in the business of trying to describe Canadian higher education, one of the hardest things to do is to try to explain Canada's community college sector since the institutions that comprise it vary substantially from one province to another (Usher 2023). In most of Canada, the term polytechnic does not have a legal meaning outside the province of Alberta. But as that term has come to be defined, it refers to that group of large, professionally-oriented and technologically sophisticated institutions which are heavily involved in both applied research and in providing bachelor's level education. They are big organizations that in many ways resemble universities as much as colleges and not solely because of the degree-level programming they offer. There are 13 polytechnic institutions that are members of Polytechnics Canada.

Established with the purpose of providing students with the technical training to enter the labor market, the primary objective of these institutions in Canada is to equip students with the necessary targeted skill development and education for their chosen career paths. When grappling with ideas of what a college education and in particular a polytechnic education will look like in the future, it is important to understand how the recent trends have changed education today, and how they will continue to change education going forwards. The evolving structure of education has seen progressive technology trends in teaching and learning, an increase in soft skills training, highly engaging material to tackle decreasing student attention spans, a prioritization of learning versus teaching, and a recent move away from standardized testing practices (Debétaz, 2023). These recent trends and tools, exacerbated by the effects of the COVID-19 pandemic on the delivery of education, have brought about substantial changes revolutionizing the way education is approached and delivered in our present day and will continue to morph in upcoming decades. Rest assured the revolutionary changes will be with us for many years. The rate of change will accelerate and the ability to embrace change and anticipate the future will be necessary.

"In the Midst of Chaos There is Opportunity" (Giles 2013, Tze 2018).

One of the most notable changes that has been witnessed is the involvement and development of technological tools, and the recent increase in remote and distance learning as a form of delivering education. As a result of this newfound dependency on remote education, the boundaries of teaching and learning have expanded and have allowed for innovative methods in an attempt to enhance student engagement and comprehension. The annual growth rate of revenue from online learning between the years of 2023 and 2027 is estimated to be 12.52% (Bush, 2023). Massive open online courses (MOOCs) and other forms of online education and programs have tremendously expanded access to education and collaboration for an abundance of learners, regardless of where they reside. Another result of this observed increase of technological dependency has been a parallel increase of attention towards soft skill development in order to fill the gap remote learning has created (Debétaz, 2023). While there has always been a strong focus on soft skills in a college education, this focus has increased due to recognition of their importance in the dynamic and collaborative nature of the modern workforce. Soft skills training and teaching continues to be acknowledged as an imperative step in the preparation of students for future employment. Balancing these two conflicting trends in education is becoming one of the main areas of focus for polytechnic institutions as they grapple with the future of education.

To address decreasing student attention spans, educators have turned to highly engaging multimedia content, employing visual aids, gamification, and interactive platforms to foster active learning experiences (Debétaz, 2023). This increase in the use of educational tools has been facilitated with the rise of technological advancements and coincidentally created in response to the detrimental effects on attention spans created by the reliance of student populations on technology and online environments. According to PEW Research Centre, teachers say that the internet and digital search tools have had a 'mostly positive' impact on their students' research habits, but 87% say these technologies are creating an easily distracted generation with short attention spans (Purcell, 2012). The reality of the inability of the average student to focus for long periods of time has led to the decreased control on students prioritizing independent learning, recent increase of multi-modal and blended learning approaches to teaching, as well as an increase of awareness for student needs and educational desires (Kingsley, 2023).

Additionally, decreased control from a teacher or professor has contributed to an increased emphasis on personalized learning, empowering students to take an active role in their education. This shift is also reflected in the move away from widely distributed standardized testing practices, with a growing recognition of the limitations of such assessments in capturing the holistic development and diverse talents of students (Debétaz, 2023). Not to mention, there has been an increased focus on accommodation for differences in learning styles and students with learning disabilities. As education continues to evolve to meet the needs of a diverse student population and keep pace with the developments of the 21st century, these emerging trends have played a pivotal role in shaping the future of education and paving the way for future modifications in the education system and the institutions which represent it.

The observed transformative change in the past decade or two through emerging trends and technologies serve as an indication for the tremendous potential in visions

regarding the future of a college education. In reference to technological advancements, utilizing dominant and advanced AI-powered software such as CHAT GPT and OpenAI, in addition to online platforms like Coursera and edX, can be expected to gain focus in the future. Understanding how these technological tools work can revolutionize the learning experience and allow learners to capitalize on the educational prospect of such tools (World Government Summit, 2023).

Achieved through comprehensive educational resources and courses targeted at equipping students with the necessary skill set for advanced technological tools, it is equally important to engage in teachings of risk awareness and preventative measures in order to avoid harmful consequences. This aforementioned focus on technological advancements is a representation of the recent push for decentralized learning and individualized forms of education. Moving away from a standardized way of learning has been regarded as an effective way to maximize student potential, in order to hone individual talents and learning skills of each and every learner (World Government Summit, 2023). Decentralization is already gaining traction as a movement in institutions and can continue to be an influential factor in the way that colleges deliver education.

The future of education also entails a shift in prioritization towards track-to-employment teaching in higher education, and there will be an increased emphasis for all educational institutions to focus on developing future-oriented initiatives and cultivating soft intrapersonal skills (World Government Summit, 2023). It is important for colleges to continue to work on providing personalized track-to-employment teaching, specifically focusing on the development of future initiatives and 'soft-skills'. In the event that emotional intelligence and 'people skills' become prioritized in an effort to bridge the gap between present learning and technological learning, educational institutions and facilities will be regarded as collaborative spaces encouraging the interaction of ideas. Tackling the issue of balance between face-to-face and online forms of learning, collaboration and inclusivity in an interconnected learning community and online decentralized learning will be vital in the reinforcement of the dynamic structure of education in the future. Continuing present progress in the educational system, becoming a learner will no longer be limited to a specific age, degree requirement or specification, nor time frame. In an attempt to promote life-long dedications to

educational development, higher-education institutions will continue to distance themselves from the idea of 'teaching' and focus on the 'learning' of the population. It will not be the role of the institution to provide the information to the patron; the future in which we are talking will ensure that it is accessible and publicized, yet it will teach individuals the necessary skills to navigate said information and critically engage with it. Colleges will continue to encourage focus on skills of emotional intelligence and employment-based proficiency, all the while providing help in the development of advanced cognitive abilities and to develop skills of adaptability and learning agility.

Conceptualizing the future of a college education is impossible without understanding the various influential factors contributing to the development of the reality in twenty or thirty years. The goal is not to simply create a vision for the future, but to understand how we are to achieve that vision and understand what steps we need to take in the next two decades to get there.

Technological advancements will continue to transform our perception of education, and with that it is important to aim to develop an understanding of the possibility of tools available to us.

Educating the population in having an adaptive and flexible intelligence will allow for learning to become a more active role for those involved, providing individuals with the skills in order to look to the needs and gaps in the future based on present information. In order to cater to the growing need for emotional intelligence and 'people skills', the adaptation of learning methods and frameworks is essential to accommodate for the instruction of such skills – not to mention, restructuring college education to encourage the prioritization of emotional intelligence skills, as well as critical thinking, creativity, complex problem-solving and cross-cultural competency skills.

"Opportunities multiply as they are seized" (Giles 2013, Tze 2018)

Important to ideas of collaborative learning environments, consideration of the physical design of educational spaces can be an influential part in ensuring the seamless collusion of the online and face-to-face dynamic. Blended learning models and the continuous adaptation of such models are vital in ensuring that the rise of technological advancements in education does not eradicate the importance of personalized and present learning. With the

emerging presence of Open Educational Resources (OERs) and Massive Open Online Courses (MOOCs), restrictive boundaries of formal learning will have to be dismantled in response to the diversification, decentralization and increasing accessibility of higher education. It is important that a college education continues to adapt and respond to the social and cultural shifts which have already taken place and will continue to occur in the next decades.

Conclusion

"Quickness is the essence of war" (Giles 2013, Tze 2018).

Education must encourage adaptability and develop resiliency in order to survive. The welcoming of integrating global perspectives and societal understandings into curriculum in order to reinforce the connectivity of a polytechnic educational institution is key to their success. In an attempt to understand the future of a college education, it is important to recognize that in the ever-changing context we find ourselves today, it remains elusive. With that said, recent trends and emerging tools have provided a strong framework with which we can attempt to develop a vision of what a polytechnic education will look like in the upcoming decades. There will be a lot of experimentation and few bumps along the way. Polytechnic institutions are up for the challenge and have already begun their transformative journey. There is no doubt polytechnics will undergo recombination in order to embrace the new paradigm of education. As the Chinese proverb clearly states, "We are living in most interesting times." The future looks very bright for polytechnic education.

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