Future Skills Centre | Centre des Compétences futures

PROJECT INSIGHTS REPORT

Shock-proofing postsecondary: Digital transformation in applied learning

Tech and Automation, Inclusive Economy

EXECUTIVE SUMMARY

This project, initiated by Saskatchewan Polytechnic, aimed to address the challenges in online education exposed by the COVID-19 pandemic. The project focused on enhancing the online learning experience in applied fields such as information technology, agriculture, health care, manufacturing and warehousing. The success of these sectors are critical to the success of the Canadian economy and are traditionally dependent on hands-on training. The initiative targeted equity-deserving groups, including women, Indigenous people, newcomers, and individuals with disabilities.

The project aimed to develop a supportive online learning environment that could replicate the benefits of in-person education. It involved creating interactive digital content and platforms to facilitate robust student interactions and work-integrated learning. In 2022, 292 students across seven programs participated. They benefitted from tuition-free enrolment and enhanced accessibility features, like closed captioning and transcripts.

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PARTNERS

Saskatchewan Polytechnic

LOCATIONS

Saskatchewan

INVESTMENT

$951,344

Evaluation Report: Shock-Proofing postsecondary Evaluation Report

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The success of this initiative underscores the potential for digital education to make learning more accessible and engaging. It highlights the need for increased funding to expand program capacity and suggests that similar online learning frameworks could be adopted more broadly to address educational disparities. The project's outcomes are particularly relevant for policy-makers and educational leaders, as they emphasize the importance of technology in reshaping educational delivery and supporting diverse student needs in the modern workforce.

KEY INSIGHT #1

Saskatchewan Polytechnic enrolled 292 students across seven programs in 2022. The student body was diverse. It included people with disabilities, women, newcomers, youth and Indigenous people.

KEY INSIGHT #2

Offering tuition-free enrollment successfully removed financial barriers, leading to high demand and highlighting the need for increased funding to expand capacity.

KEY INSIGHT #3

Student engagement was notably high due to interactive and media-rich online content, including short videos and interactive activities that maintained interest and participation.

The Issue

In response to the COVID-19 pandemic, the educational sector encountered numerous challenges, especially in applied learning, which typically depends on direct, face-to-face interaction. Saskatchewan Polytechnic notes that existing online education models were insufficient, lacking the engagement, interactivity and support needed to replicate the in-person learning experience effectively. This realization prompted a re-evaluation of online education to better meet the needs of modern learners and adapt to disruptions in the global economy.

The institution observed that certain demographics, including women, Indigenous peoples, newcomers to Canada and individuals with disabilities, are disproportionately affected by these educational shortcomings. These groups often experience higher levels of marginalization in the labour market, exacerbated by lower levels of education and training.

Prior attempts to integrate online learning with the vocational and technical education sectors often fell short due to a lack of real-time interaction and hands-on experience, which are crucial for sectors such as information technology, agriculture and food chain supply, health care, manufacturing and warehousing—sectors with a significant role in the economy and an urgent need for skilled workers. The traditional online models do not adequately support the applied learning necessary for these fields, nor do they foster the necessary social connections or adaptability skills that enhance both learning outcomes and student resilience in a rapidly changing work environment.

What We're Investigating

In response to these challenges, Saskatchewan Polytechnic spearheaded a comprehensive study to evaluate the effectiveness of an innovative online learning framework. This project was designed to explore whether a supportive and connected online environment could improve educational outcomes and experiences, with a focus on students who are underrepresented in the sectors of focus.

The project sought to understand the following:

- How can online learning be effectively applied in hands-on fields such as trades and technology?
- What effects do interactive and socially connected online environments have on student success and satisfaction?
- How can the integration of work-integrated learning and digital skills development in online formats prepare students for the workforce?

Collaborating with a variety of industry stakeholders and educational partners, the goal was to cater to a diverse student body, enhancing accessibility for women, Indigenous peoples, people with disabilities, and newcomers to Canada by offering flexible learning options.

The project's methodology involved creating digital content and learning platforms that supported various forms of interaction: student-to-student, student-to-faculty and student-to-industry. This multi-phase project began with the initial development of online courses, which were crafted to be engaging and responsive to students' needs. Feedback from participants then guided iterative testing and refinement of these courses.

Among the key initiatives were the development of a digitized tool that recognizes prior learning and the implementation of virtual student supports aimed at enriching the online learning experience. These efforts underscored the project's objective to test and refine an online learning model that not only replicates but potentially enhances the benefits of traditional in-person education, especially in applied learning contexts.

What We're Learning

The seven diverse programs, ranging from agricultural equipment technician to website design, were offered in various formats, including fully online and hybrid models, and catered to a wide array of students.

Tuition-free education increases student enrolment
Similar to other projects that reduce financial barriers to education and training, a key feature of this project was the elimination of tuition fees, which significantly increased student enrolment. However, the project struggled to meet the overwhelming demand with the resources on hand. While other similar projects were able to report that particular groups, such as women, benefitted more from the elimination of fees, this project, unfortunately, was not able to report on the demographic composition of enrolled students.

Media-rich, interactive materials stimulate engagement
The project enhanced the accessibility of its online content by incorporating universal design principles, such as transcripts and closed captioning for videos, ensuring that all students could benefit equally. Student engagement was notably high, thanks in part to the use of interactive and media-rich online materials—for example, 3D models available for student exploration 24 hours a day. Short, engaging videos and interactive activities proved particularly effective in keeping students involved and motivated. Through these materials, the project facilitated meaningful interactions among students, instructors and industry professionals, which enriched the learning experience and fostered connectivity.

Building data collection into program design is crucial
While the project was successful in enrolling close to 300 students, the project's goal to bolster digital skills and adaptability was hindered by a lack of specific outcome data, making it challenging to definitively assess success in these areas.

Why It Matters

The findings from this project offer significant insights into the evolving landscape of digital education, particularly in applied learning sectors. These insights are crucial for stakeholders across various domains, including educational institutions, policy-makers and industry leaders, as they underscore the effectiveness of online and hybrid learning models in enhancing accessibility and engagement among diverse student populations.

One of the key takeaways is the project's success in removing financial and accessibility barriers for students. This aspect of the project highlights the potential for policy adjustments that could make education more accessible to underrepresented groups. By offering tuition-free programs and incorporating universal design principles, the project demonstrates a viable pathway to increasing educational participation rates among women, Indigenous peoples, newcomers, and individuals with disabilities. This approach could inform broader educational policies aimed at reducing disparities in access to training and education.

The project also focused on enhancing student engagement through engaging online content and the use of interactive tools, such as 360-degree videos and asynchronous learning modules. These methods proved effective, particularly in sectors where practical skills are essential, like trades and technology. The positive feedback received indicates that these strategies could be broadly adopted, potentially transforming curriculum design and delivery in vocational training programs.

Collaboration with local organizations for recruitment and placement also represents a model that could be replicated to improve employment outcomes for students. This strategy not only supports the project's immediate goals but also fosters community ties and enhances the relevance of training programs to fit local industry needs. Such partnerships could be encouraged through policy initiatives that promote collaboration between educational institutions and industry, thereby ensuring that training programs are closely aligned with labour market demands.

The project's outcomes suggest that embracing digital transformation in education can lead to more inclusive, engaging and effective training models. These insights should inform future educational policies and practices, encouraging a shift toward more flexible, accessible and responsive educational systems capable of meeting the diverse needs of today's learners. By leveraging technology and fostering partnerships, educational institutions can enhance their offerings and better prepare students for the demands of the modern workforce.

What's Next

Saskatchewan Polytechnic continues to offer education and training for a wide range of applied learning opportunities. Many of the assets developed for this project have been integrated into ongoing programming, including the agricultural equipment technician certificate program.

The Future Skills Centre acknowledges that the Anishinaabe, Mississaugas and Haudenosaunee share a special relationship to the ‘Dish With One Spoon Territory,’ where our office is located, bound to share and protect the land. As a pan-Canadian initiative, FSC operates on the traditional territory of many Indigenous nations across Turtle Island, the name given to the North American continent by some Indigenous peoples. We are grateful for the opportunity to work in this territory and commit ourselves to learning about our shared history and doing our part towards reconciliation.