Guidelines for Technology-Enhanced Learning

Digital Learning Advisory Committee:
Digital Learning Strategy – Appendix 1

This is an appendix of B.C.'s Post-Secondary Digital Learning Strategy. Access the full strategy here: https://www2.gov.bc.ca/gov/content?id=87976287B14D45E698D9A0F1C2DC0455. The strategy includes strategic priorities and actions, appendices, and acknowledgements.

The Digital Learning Strategy is made available through an Open License. Review the Digital Learning Strategy Open License here: https://www2.gov.bc.ca/gov/content?id=2E522682E64045FD8B3C2A99F894668C.

Purpose

The Guidelines for Technology-Enhanced Learning ('the Guidelines') were developed by the Quality Enhancement Working Group in alignment with Recommended Action 1 (a) from the Digital Learning Strategy.

The purpose of the Guidelines is to be adopted by post-secondary institutions to enhance digital learning models in post-secondary education in British Columbia. The Guidelines are intended to assist post-secondary institutions in navigating the expanding use of digital technologies supporting teaching and learning by complementing and guiding post-secondary institutions' policies and processes.

Assumptions and approach

- These Guidelines are intended to be evergreen and responsive to shifts in technology, pedagogy, and culture.
- Successfully adapting B.C.'s post-secondary system to the evolving role of technology will require institutions to update existing or develop new policies to address the impact of technology on post-secondary operations.
- These Guidelines were developed through the following steps:
    - The Quality Enhancement Working Group conducted an environmental scan of over 30 existing quality assurance frameworks from post-secondary systems and institutions around the world.
    - These frameworks were analyzed based on their scope and target audience, and common components were identified.
- This environmental scan informed the development of categories for the Guidelines for Technology-Enhanced Learning.
- The Guidelines summarize the comprehensive and detailed input provided by Working Group members.
- B.C. has an existing and robust quality assurance framework in place (see the Quality Assurance Process Audit). The intention of these Guidelines is to provide system-level guidance oriented to digital technologies and technology-enhanced learning.
- The intention of these Guidelines is to support users in enhancing equity in technology-enhanced post-secondary environments from an intersectional perspective that accounts for all backgrounds, contexts, and worldviews. This includes: First Nations, Urban Indigenous, Métis, and Inuit Peoples, Indigenous women and girls,[1] the 2SLGBTQQIA+[2] community, Black people, People of Colour, immigrants, refugees and protected persons, people who wear articles of clothing or symbols related to their

[1] In alignment and responsive to article 11.1 of the MMIWG report: *Reclaiming Power and Place: The Final Report of the National Inquiry into Missing and Murdered Indigenous Women and Girls, vol 1a and 1b (Ottawa: desLibris, 2019) at 193.*

[2] The acronym 2SLGBTQQIA+ reflects those who are Two-Spirit, Lesbian, Gay, Bisexual, Transgender, Queer, Questioning, Intersex, Asexual, and all additional sexual orientations and gender identities.

religion and/or culture, international students, persons with disabilities, people responding to trauma, and any other equity-seeking groups that may not be listed.
- It is anticipated that the Guidelines will be iterated through time and through the cyclical review processes as outlined in Recommended Action 1 (d).
- A potential next step is making the Guidelines available to post-secondary institutions and organizations.
- The Guidelines were also informed by an adapted version of the Digital Learning Advisory Committee's guiding principles. These principles, which were part of the Digital Learning Advisory Committee's foundational documents, are outlined below.

Guiding Principles

Technology-enhanced learning models should support equity, accessibility, quality, and success in post-secondary education through ongoing and responsive consideration of the following principles:

Inclusive and universal design for learning (UDL): Courses at the post-secondary level should adopt universal and inclusive design for learning and recognize all learning modalities, and pedagogies.

Accessibility, affordability, and sustainability: Post-secondary education should be accessible, affordable, and sustainable, promoting access and success for learners of all backgrounds, contexts, and worldviews.

Human-centred:

- **Learners:** Learners have access to flexible models for learning where possible or appropriate, and to support and services that are developed by putting learners' needs first. This includes considering supports for mental health and wellbeing, implementation of trauma-informed approaches to learning, community-building opportunities, fostering safety in digital spaces, and offering flexible and appropriate assessments that are responsive to learners' needs.
- **Educators and staff:** Educator and staff wellbeing is prioritized and supported across modalities and in all post-secondary environments. This includes considering workload, professional development opportunities, safety in digital spaces, health and wellbeing supports, and trauma-informed policies.

Life-long learning: Participation in post-secondary education is fostered at all points along a person's learning and career journey, including through enhanced digital literacy, digital strategies, flexible opportunities, and inclusion.

Promote lasting and meaningful reconciliation: The post-secondary system advances reconciliation and recognition of Indigenous knowledge, pedagogies, and learning to

ensure that post-secondary education is responsive and relevant to First Nations, Urban Indigenous, Métis, and Inuit Peoples.

Support cross-institutional collaboration: Increase collaboration across the post-secondary system through sustainable open designs, sharing and creating knowledge, openly licensing resources, and expanding learner pathways.

Address safety, information security, and privacy risks: Keep learners, educators, and staff safe by increasing safety, privacy, information security, safeguards, and education on digital best practices through enhanced digital literacy.

Guidelines for Technology-Enhanced Learning

Enhancing inclusivity within digital post-secondary education

Technology-enhanced learning models and pedagogy in the post-secondary system should be inclusive of people of all backgrounds, contexts, and worldviews. To achieve this goal, technology-enhanced learning should include:

- Considering the experiences of diverse and equity-seeking communities in technology-enhanced learning environments, ensuring that policies and initiatives consider systemic inequities and address how diverse groups of people may experience policies, programs, and initiatives differently. This can be supported, for example, by:
    - Developing consistent training about Indigenous-specific racism, health, and cultural safety amongst health professionals through education and training programs at the post-secondary level in B.C.[3]
    - Assessing the ethical implications for using digital tools and technologies used to support technology-enhanced learning.
- Setting measurable targets and timelines for the implementation of UDL, accessibility standards and aligning with the data standards and directives from the *Anti-Racism Data Act*.
- Using intersectional analytical tools such as Gender-Based Analysis Plus (GBA+) to support post-secondary institutions and system organizations in including people of all backgrounds, contexts, and worldviews.

Advancing lasting and meaningful reconciliation in technology-enhanced learning environments

Digital post-secondary studies in B.C. must contribute to true, meaningful, and lasting reconciliation with First Nations, Urban Indigenous, Métis, and Inuit Peoples. It should advance and recognize Indigenous knowledge, pedagogies, and learning, and be relevant

[3] *In Plain Sight – Addressing Indigenous-specific Racism and Discrimination in B.C. Health Care*. Addressing Racism Review Summary Report, November 2020, https://engage.gov.bc.ca/app/uploads/sites/613/2020/11/In-Plain-Sight-Summary-Report.pdf

and responsive to First Nations, Urban Indigenous, Métis, and Inuit Peoples. The following guidelines are intended to support these goals as they relate to technology-enhanced learning:

- In response to the Call to Action 62 of the Final Report of the Truth and Reconciliation Commission of Canada, educators consider how to integrate Indigenous knowledge and teaching methods into classrooms and digital learning environments and develop culturally appropriate curricula, consulting with experts and participating in professional development when necessary. [4]
- Educators, learners, and staff learn about and uphold appropriate sharing protocols of Indigenous knowledge and data and cultivate a welcoming and culturally inclusive learning environment.
- Post-secondary institutions consult with First Nations, Urban Indigenous, Métis, and Inuit Peoples to develop effective approaches for intellectual property management (maintenance, control, protection, and development), labelling and licensing to protect Indigenous knowledge and intellectual property.
- Post-secondary institution decisions regarding digital technology and technology-enhanced learning are informed by localized Indigenous policies and practices.
- Post-secondary institutions collaborate with First Nations, Urban Indigenous, Métis, and Inuit Peoples on digital learning opportunities and resources and consultation opportunities in developing digital policies and programs.

Building an accessible, affordable, and sustainable digital post-secondary education

The digital post-secondary system should be accessible, affordable, and sustainable for all people, promoting equitable access and success for learners of all backgrounds, contexts, and worldviews. To achieve this goal, technology-enhanced learning should include:

- Where appropriate, using free and low-cost digital and print materials to minimize the cost of digital post-secondary education for learners. This can contribute to mitigating some aspects of the digital divide.
- Adopting approaches to reduce the physical and digital environmental impact associated with digital technologies, such as hardware waste, data storage capacity, etc. For example, through technology borrowing programs (hardware and software), responsible end-of-life practices for technology, etc.
- Offering equitable and inclusive learning opportunities, such as considering part-time options for credentials, synchronous, asynchronous, and hybrid scheduling, accommodations for exams, physical spaces suitable for online learning to the extent possible while respecting different pedagogical approaches and the need to meet program objectives and accreditation standards.

[4] Honouring the truth, reconciling for the future: summary of the final report of the Truth and Reconciliation Commission of Canada (Ottawa: 2015), in response to Calls to Action 62 (2) at 238 and 10 (iii) at 321.

Taking a human-centred approach

Technology-enhanced learning should take a human-centred approach. This includes:

- Considering and assessing the workload placed on learners, educators, and staff learning and mastering new technology when developing course design and materials.
- Considering remote learners, educators, and staff in the promotion of a healthy, safe, trauma-informed, and culturally appropriate educational environment for all, including online access to counselling, tutoring, academic advising, mentorship, social wellbeing events and opportunities, academic probation supports, and other supports and resources traditionally available on-campus.

Providing lifelong learning opportunities

Participating in digital post-secondary education should be fostered at all points along a person's learning and career journey. To achieve this goal, technology-enhanced learning should include:

- Fostering the development of localized digital literacy policies, increasing digital literacy knowledge, skills, and abilities for all, including people of all levels of digital experience, backgrounds, contexts, and worldviews.
- Providing digital continuing education programs, online courses, micro-credentials, and open learning opportunities that recognize the unique circumstances and needs of lifelong learners by providing flexible, modular, and stackable learning opportunities.

Developing technology, infrastructure, and human resources to make post-secondary education more equitable

System-level coordination and collaboration is recommended across B.C.'s post-secondary system to reduce the escalating costs related to digital technologies. Additionally, this could improve the sustainability of B.C.'s post-secondary institutions, which are experiencing increasing demands for digital and open infrastructure including hardware, software, and human resources. To achieve this goal, and support meeting the needs of the labour market, technology-enhanced learning should include:

- Mitigating barriers associated with the digital divide and inequity in technology access by providing low and no-tech alternatives to accessing and completing coursework where appropriate.
- Clarifying how required technologies support learning outcomes.
- Building in and providing alternative modalities to complete course activities if learners face barriers, such as no network connectivity or no device, or need to access offline physical resources as appropriate. For example, online course materials may be made available for download, provided on USB devices, or provided through printed copies at no cost for learners.
- Providing physical spaces suitable for online learning.

- Providing access to appropriate hardware and software that meet accessibility needs on- and off-campus through lending and bulk procurement programs.
- Cultivating digital talent and shared expertise amongst learners, educators, staff, and industry to contribute solutions to institutional and community technology needs through technology development, including open-source program development.

Building a collaborative post-secondary system

System-level coordination and collaboration are recommended for developing B.C.'s digital capabilities within the post-secondary system, institutions, and the province more broadly. To achieve this goal, technology-enhanced learning should consider:

- Fostering collaboration across the post-secondary system to reinforce and enhance the successful implementation of digital learning models and technologies. This has the potential to increase access to post-secondary education and enhance mobility within the system.
- Fostering collaboration within the system to establish best practices for instructional designs to address emerging needs and priorities such as:
    - Access to flexible learning and recognition of all types of learning.
    - Joint procurement processes as the default for large commodity technology purchases.
    - Collaborating to develop and maintain a repository of software applications, platforms, and relevant privacy and security assessments used across the post-secondary system.
- Convening an annual gathering to foster discussions about digital learning, pedagogy, and teaching and learning expertise on technology-enhanced learning environments (Recommended Action 1 (d)). This may include maintaining a repository of progress reports outlining implementation of the Guidelines.

Making the digital space safer

The digital post-secondary system should address security, information security, privacy risks, physical, emotional, and psychological safety, and the potential for exposure to prejudice and biases to support wellbeing amongst learners, educators, and staff. This includes complying with applicable privacy and information security legislation and policies. To achieve this goal, technology-enhanced learning should consider:

- Developing and applying guidelines for selecting and implementing learning technology tools that actively promote considerations regarding data storage, data lifecycles, information security, and privacy.
- Developing and implementing a set of Ethical Guidelines for Educational Technology and supporting the post-secondary system in implementing the accessibility standards and legislation (Accessible B.C. Act and Accessible B.C. Regulation), and aligning with data standards and directives from the Anti-Racism

Data Act within digital spaces and technologies. This also includes adopting current and emerging best practices to increase equity, diversity, inclusion, and safety in digital spaces (Recommended Action 1(c)) by:

- Identifying and addressing inappropriate behaviour and interpersonal interactions in digital spaces.
- Implementing a code of conduct for online events.
- Offering training for learners, educators and staff regarding prejudices, biases, colonial constructs, and how to identify and prevent harassment and violence in the digital environment.
- Being flexible in allowing or disallowing anonymous contributions and enabling and disabling comments in virtual platforms. This could include reporting inappropriate conduct and removing users who violate community guidelines.

Conducting research and implementing evaluation tools into digital learning technologies, models, and pedagogy

Research and evaluation on technology-enhanced learning environment should consider:

- Applying evidence-based research, methods and practices when using digital technologies in the post-secondary system.
- Exploring the effects of flexible learning on mental health and how technology-enhanced learning impacts learner, educator, and staff wellness and success.
- Seeking to identify learners who are not accessing post-secondary education, including those facing intersectional barriers to access, and those most susceptible to attrition. This includes strategically using digital technology to reduce barriers and addressing barriers created by digital technologies.

Institutional leadership strategies for technology-enhanced learning

In a technology-enhanced learning environment, institutional leadership is encouraged to consider:

- Using methods for enhancing technology-enhanced learning at the leadership level, including through institutional governance.
- Including pedagogy, digital literacy, and teaching and learning expertise in the decision-making process for technology procurement, development, and implementation.
- Establishing targets and timelines for improving digital learning, digital literacy, digital accessibility, and diversity and inclusion in digital environments.
- Applying institutional review processes to ensure that post-secondary institutions periodically conduct rigorous and ongoing institutional quality assessments (for example, using the Quality Assurance Process Audit (QAPA).

- Developing strategies for evaluating the implementation and outcomes of technology-enhanced learning practices, identifying gaps, and proposing actionable strategies to address them.
- Creating collaborative pathways for the adoption of digital technologies across departments, faculties, and other post-secondary institutions.
- Developing collaborative funding models focused on remote learning programs.
- Leveraging collaboration between educators, staff, learners, and stakeholders, including advisors, learning designers, and educational technology and teaching and learning expertise, when appropriate, when designing courses and programs.
- Incorporating these Guidelines for Technology-Enhanced Learning within existing evaluation processes for course, and/or program review.

Pedagogy strategies for technology-enhanced learning

Pedagogy strategies for technology-enhanced learning environment should consider:

- Focussing on fostering opportunities for educators to upskill so they can effectively teach in digital environments.
- Supporting educators to develop new teaching strategies and design models that support the needs of digital environments and technology-enhanced learning.

Glossary

Accessibility standards and legislation: Web Content Accessibility Guidelines (WCAG) 2 is developed through the W3C process in cooperation with individuals and organizations around the world, with a goal of providing a single shared standard for web content accessibility that meets the needs of individuals, organizations, and governments internationally. See more at: WCAG 2 Overview | Web Accessibility Initiative (WAI) | W3C. The Government of B.C. has passed accessibility legislation, the *Accessible British Columbia Act*. Effective September 1, 2022, over 750 public sector organizations will be required to establish an accessibility committee, an accessibility plan, and a build tool to receive feedback on their accessibility, including public post-secondary institutions. See more at: Accessibility legislation - Province of British Columbia (gov.bc.ca).

Digital divide: Digital divides refer to the gaps between people who do and do not have access to the technologies necessary for connecting with information and communications. Digital divides include inequities related to the infrastructure, tools, abilities, skills, and literacies required to effectively participate in an information-based society. Digital divides also refer to divides within and across countries. See more at: The Digital Divide in Canada| Statistics Canada.

Gender-Based Analysis Plus (GBA+): GBA+ is an analytical process that provides a rigorous method for the assessment of systemic inequalities, as well as a means to assess how diverse groups of women, men, and gender diverse people may experience policies, programs, and initiatives. The "plus" in GBA+ acknowledges that GBA+ is not just about differences between biological (sexes) and socio-cultural (genders). GBA+ considers many other identity factors such as race, ethnicity, religion, age, and mental or physical disability, and how the interaction between these factors influences the way we might experience government policies and initiatives. See more at: Gender-based Analysis Plus (GBA+) - Women and Gender Equality Canada.

Sustainability: Sustainability means meeting our own needs without compromising the ability of future generations to meet their own needs. In addition to natural resources, there is also a need for social and economic resources. In this way, references to sustainability in the DLS are intended to refer to various facets of sustainability.

- Environmental Sustainability: Ecological integrity is maintained, all of earth's environmental systems are kept in balance while natural resources within them are consumed by humans at a rate where they are able to replenish themselves.
- Economic Sustainability: Human communities across the globe are able to maintain their independence and have access to the resources that they require, financial and other, to meet their needs. Economic systems are intact, and activities are available to everyone, such as secure sources of livelihood.

- Social Sustainability: Universal human rights and basic necessities are attainable by all people, who have access to enough resources in order to keep their families and communities healthy and secure. Healthy communities have just leaders who ensure personal, labour and cultural rights are respected and all people are protected from discrimination.
  See more at: What is sustainability? – University of Alberta.

Trauma-informed approach: A trauma-informed approach to teaching and learning encourages learners, educators, and staff to seek a basic understanding of the psychological, neurological, biological, social, and spiritual impact that trauma and violence can have on individuals. A trauma-informed approach recognizes that the core of any approach is genuine, authentic, and compassionate relationships. See more at: Trauma-informed Toolkit.

United Nations Declaration on the Rights of Indigenous Peoples legislation: The provincial government in B.C. passed legislation to implement the *United Nations Declaration on the Rights of Indigenous Peoples (UN Declaration)*, which the Truth and Reconciliation Commission confirms as the framework for reconciliation. The *Declaration on the Rights of Indigenous Peoples Act* creates a path forward that respects the human rights of Indigenous peoples while introducing better transparency and predictability in the work we do together.

Universal design for learning (UDL): Universal Design for Learning is a framework to improve and optimize teaching and learning for all people based on scientific insights into how humans learn. CAST is a non-profit education research and development organization that created the Universal Design for Learning framework and UDL Guidelines, now used the world over to make learning more inclusive.