

Digital Learning Strategy

**Digital Learning
Advisory Committee**

Draft Recommendations

June 8th, 2022

AEST Digital Learning Strategy

1	Engage the post-secondary system to learn about the role of digital learning technology and support the successful adaptation of the post-secondary system. <i>Digital Learning Advisory Committee initiated.</i>
2	Develop recommendations regarding policies, practices, and initiatives that will enable digital learning models to support increased equity, access, and success in post-secondary education (PSE). <i>Draft recommendations produced.</i>
3 *	Consult broadly with post-secondary institutions (PSIs) and organizations, learners, and Indigenous partners and organizations to collect feedback and solicit interest in participation in follow-up initiatives. <i>Consultations initiated and to take place through September 2022.</i>
4	Refine recommendations and develop an implementation plan, including for pilots and further policy development.

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Introduction to The Digital Learning Advisory Committee's work

Context:

In Spring 2020, British Columbia's Post-Secondary System (PSS) pivoted towards online services in response to the COVID-19 pandemic, initiating a transition that has impacted the operations of the entire post-secondary system.

This initial shift to emergency online learning was anticipated to be short-lived, however the nearly universal use of online learning throughout repeated pandemic waves has reinforced the use of digital models for learning and services. It now appears that a much larger portion of post-secondary education will remain available online, occurring in parallel with on-campus options.

Background:

In 2021, the Ministry of Advanced Education and Skills Training ('the Ministry' or AEST) engaged the post-secondary system to better understand and support the use of digital learning models in post-secondary education in British Columbia, both during and after the COVID-19 pandemic. The Digital Learning Advisory Committee (DLAC) was initiated to lead a collaborative process to enhance digital post-secondary experiences across the province by:

- Identifying the lessons learned from the widespread adoption of digital learning models in post-secondary education over the past two years,
- Incorporating these into existing knowledge and best practices regarding the application of digital learning models in post-secondary education, and
- Envisioning how human-centred digital learning environments can complement and enhance British Columbia's (BC) post-secondary system over the next 5-10 years.

The Associate Vice President of Teaching and Learning at the University of Fraser Valley and the Assistant Deputy Minister in the Post-Secondary Policy and Programs Division in the Ministry of Advanced Education and Skills Training served as DLAC's Co-Chairs, exemplifying the collaboration between the post-secondary system and government.

DLAC consisted of three Working Groups: Quality Enhancement, Digital Literacy, and Technology, Finance, and Administration. Members of these Working Groups included a cross-section of experts from colleges, institutes, teaching- and research-intensive universities, and sector experts from BCCAT, the First Nations Technology Council, BCcampus, and BCNET. The collaborative efforts of the DLAC and Working Groups have resulted in this Digital Learning Strategy (DLS), which includes strategic priorities and recommended actions, the Guidelines for Technology-Enhanced Learning, a Post-Secondary Digital Literacy Framework, and an assessment of BC's post-secondary systems needs and capabilities.

Summary:

The Digital Learning Strategy developed by the DLAC is intended to advance the post-secondary system's ability to navigate the rapidly growing and ever-changing digital landscape of BC's post-secondary education system. In order to accomplish this while respecting the diversity of BC's post-secondary

system and communities, the recommendations aim to be high level while providing tools and approaches to support local adoption and implementation.

The collaborative efforts of the DLAC and Working Groups have resulted in:

- The Strategic Priorities and Recommended Actions (pages 6-10),
- The Guidelines for Technology-Enhanced Learning (Appendix 1),
- A Post-Secondary Digital Literacy Framework (Appendix 2),
- A Technology Needs and Capabilities Summary (Appendix 3), and
- A Consultation and Implementation Strategy (Appendix 4).

These works are the product of extensive engagement and consultation with a broad range of individuals and organizations from across BC's public post-secondary system, along with experts from other jurisdictions within Canada and internationally.

Next Steps:

This document will be further enriched after multiple rounds of consultation across adult higher learning entities and post-secondary institutions in BC. Consultations were initiated in April 2022 and will continue to take place throughout the Summer, with the goal of implementation beginning in September 2022 and carrying on through Spring 2023.

Implementation will involve the initiation of further initiatives and pilot programs involving partnerships with post-secondary institutions and organizations. As you read through this document, please consider whether any or all the Strategic Priorities and Recommendations are something that you, your institution, or your organization may consider participating in.

Recommendations, additions, and amendments are welcome as we develop this document into a robust and applied tool. Feedback is welcome on an ongoing basis and can be addressed to the Post-Secondary Digital Policies and Programs Branch at AEST.DPP@gov.bc.ca.

Appendix 4 details consultation and implementation plans, Requests for Interest, and additional descriptions of some of the strategic priorities and actions. If you have questions about any of these materials, please do not hesitate to connect.

DLAC's Strategic Priorities and Action Plan

➔ Strategic Priority 1: Policies and Processes

The successful adaptation of BC's post-secondary system to the rapidly growing and evolving role of technology in post-secondary education will require institutions to update existing policies or develop new policies to address the impact of digital technology on all facets of post-secondary operations and to foster innovation and excellence.

Recommended Actions

1a) Institutions adopt the Guidelines for Technology-Enhanced Learning (the 'Guidelines' are attached as Appendix 1), including by:

- Establishing a localized cross-functional digital learning advisory body responsible for their implementation,
- Incorporating the Guidelines into institutional strategic planning and reporting, with an emphasis on systemic change.
- Applying the Guidelines in the development of new programs and in proposals for targeted Ministry funding.

1b) Institutions use the BC Post-Secondary Digital Literacy Framework (attached as Appendix 2) to enhance digital literacy across post-secondary populations by:

- Developing localized digital literacy policies, in collaboration with other institutions when appropriate,
- Integrating digital literacy open education resources into courses and programs for learners, and
- Connecting educators and staff with available resources for training and professional development.

1c) The Ministry supports the post-secondary system in ensuring that digital spaces and technologies recognize and account for the needs of diverse communities of all backgrounds and identities by:

- Developing a set of Ethical Guidelines for Educational Technology, and

- Supporting the post-secondary system in implementing the forthcoming accessibility legislation within digital spaces and technologies, as well as in adopting current and emerging best practices to increase diversity, inclusion, and safety in digital spaces.

1d) The Ministry and members of the post-secondary system gather at least once annually for institutions to:

- Report on progress in implementing the Guidelines,
- Have a forum to share progress and challenges,
- Collaborate with the Ministry to refine the Guidelines for Technology-Enhanced Learning, and
- Inform system strategies within PSIs and more broadly to learners, educators, staff, and communities.

Strategic Priority 2: System Collaboration

System-level coordination and collaboration is required across BC's post-secondary system to reduce the escalating costs related to digital technologies, and to improve the sustainability of BC's post-secondary institutions in response to increasing demands for digital infrastructure including hardware, software, and human resources.

Recommended Actions

2a) The Ministry, post-secondary institutions, and BCNET collaborate on the establishment of an evergreen five-year technology investment strategy, in conjunction with the existing five-year capital investment planning process.

2b) The Ministry, post-secondary institutions, and BCNET collaborate to develop and maintain a repository of software applications and platforms used across the post-secondary system.

2c) Institutions are encouraged to take advantage of the opportunities within BCNET's joint procurement processes as the default for large commodity technology purchases (e.g., Learning Management Systems, Student Information

Systems, Enterprise Resource Planning systems, audio and visual equipment, storage, etc.) and expertise, and for specialized learning technologies wherever possible. Procurement and licensing that allows for open-source programs and software development should also be encouraged.

Strategic Priority 3: Enhancing Digital Equity

The post-secondary system contributes to mitigating or eliminating digital inequities by developing BC's digital capabilities within the post-secondary institutions, across the post-secondary system, inclusive of adult higher education entities, and within BC more broadly.

Recommended Actions

3a) The Ministry, post-secondary institutions, and BCNET collaborate to reduce the costs of suitable devices (i.e., laptops, mobile devices, etc.), cell phone plans, and internet for learners, educators, and staff.

3b) The Ministry collaborates with Thompson Rivers University Open Learning,¹ EducationPlannerBC, and the BC Council on Admissions and Transfer to enhance provincial advising supports to promote broader post-secondary access through open learning and flexible pathways.

3c) The Ministry and post-secondary institutions collaborate with Indigenous communities to ensure that intellectual property management, labelling and licensing approaches protect Indigenous knowledge and intellectual property.

3d) The Ministry and post-secondary institutions develop and implement collaborative software and application development models as an integral component of post-secondary research and innovation, including through exploring pilots related to:

¹ In alignment with *Thompson Rivers University Act*, which provides a provincial mandate for the university, sections 3 (1) (d) and 3 (2) posit that the university is to provide an open learning educational credit bank for students, and to promote teaching excellence and the use of open learning methods.

3d:i) Establishing an Open-Source Programs Office (OSPO) with expertise in the development, licensing, adoption, and intellectual property management of open-source technologies.

3d:ii) Establishing a learning technology helpdesk for remote learners, educators, and staff that can be shared across multiple post-secondary institutions.

3e) The Ministry and BCNET explore a provincially supported pilot for remote application and software services to ensure that remote learners can access the programs and software required for their learning, including accessibility supports.

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Map of Digital Learning Advisory Committee Strategic Priorities and Recommended Actions

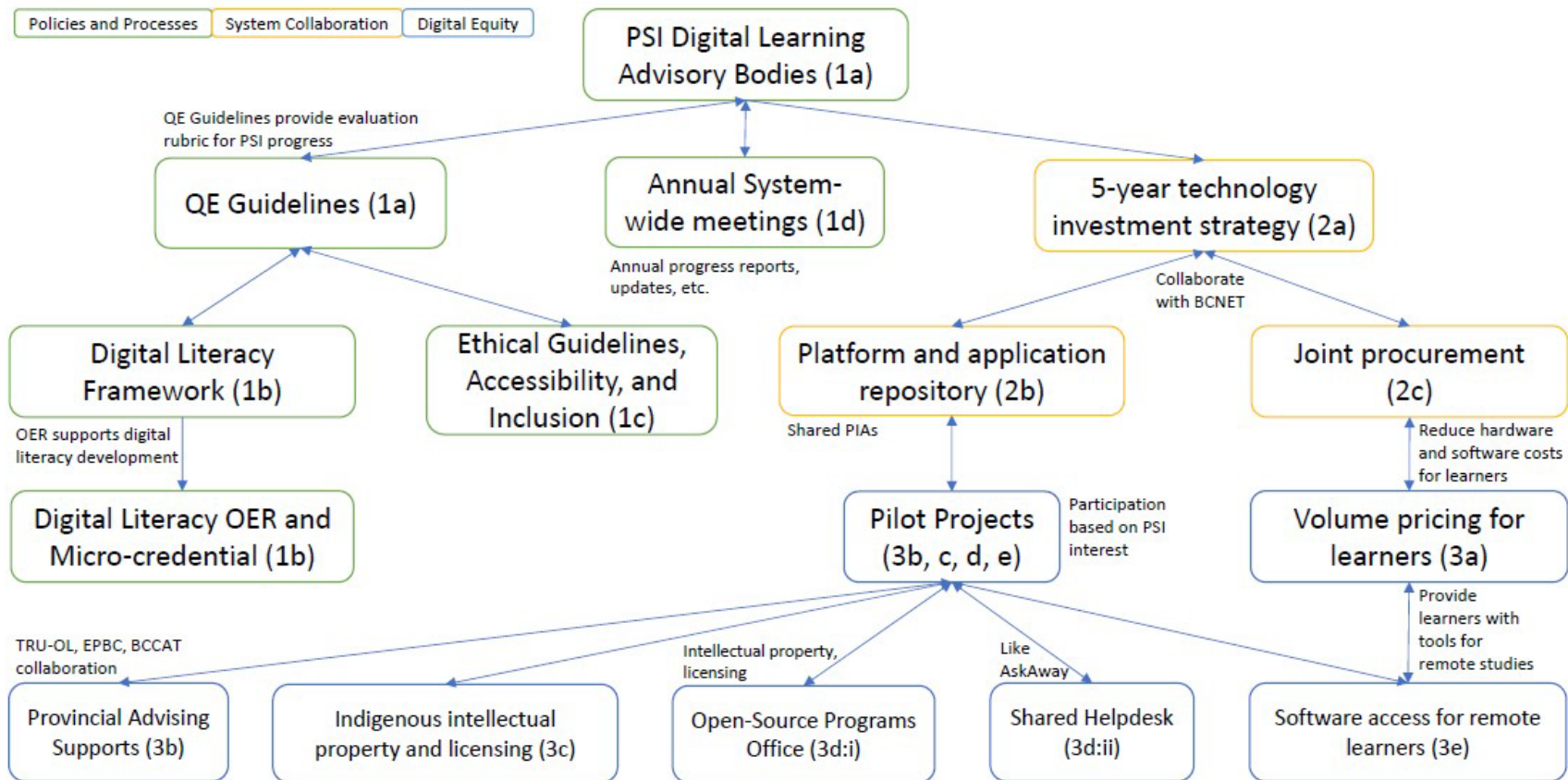


Figure 1: A map of digital learning advisory committee strategic actions and their connections.

Appendix 1: Guidelines for Technology-Enhanced Learning

Purpose:

In alignment with recommendation “1a” from the Digital Learning Advisory Committee,² the Guidelines for technology-enhanced learning (‘The Guidelines’) were developed by the Quality Enhancement Working Group. The purpose of The Guidelines is for PSIs to adopt them to enhance digital learning models in post-secondary education in British Columbia, both during and after the COVID-19 pandemic. The Guidelines are intended to assist post-secondary institutions (PSI) in navigating the expanding use of digital technologies supporting teaching and learning by complimenting and guiding PSI policies and processes.

Assumptions and approach:

- These Guidelines are intended to be evergreen and responsive to shifts in technology, pedagogy, and culture.
- The successful adaptation of BC’s post-secondary system to the rapidly growing and evolving role of technology in post-secondary education will require institutions to update existing policies or develop new policies to address the impact of digital technology on all facets of post-secondary operations.
- These Guidelines were developed after applying a critical lens to existing frameworks in post-secondary systems around the world, in the following terms:
 - A multitude (30+) of existing quality assurance frameworks have been evaluated as part of a critical environmental scan.
 - These frameworks were used to validate the contextual categories that the Quality Enhancement Working Group proposed. The reference frameworks were described based on their scope and target audience, and common aspects shared across frameworks were identified.
 - However, it was noted that the referenced frameworks were focused on specific frames (e.g., course design guidelines), or were designed to support jurisdiction-level QA processes. There was limited applicability beyond supporting the contextual categories that are used here.
 - As BC has an existing and robust quality assurance framework in place (see the [Quality Assurance Process Audit](#)), the intention of The Guidelines is to provide system-level guidance oriented to digital technologies and technology-enhanced learning.
 - Please email AEST.DPP@gov.bc.ca for access to the Quality Enhancement – Environmental Scan.
- It is anticipated that areas for improvement and refinement will be identified and adopted at the provincial level through applying The Guidelines as part of the cyclical review processes (recommendation ‘1c’).
- These Guidelines summarize the comprehensive and detailed input provided by Working Group members. As a next step, an interactive digital version of the Guidelines will be developed and hosted in a centrally accessible location for post-secondary institutions and organizations. This will

² 1a) Institutions adopt the Guidelines for Technology-Enhanced Learning (the ‘Guidelines’ are attached as Appendix 1), including:

- Establishing a localized cross-functional digital learning advisory body responsible for their implementation,
- Incorporating the Guidelines into institutional strategic planning and reporting, with an emphasis on systemic change.
- Applying the Guidelines in the development of new programs and in proposals for targeted Ministry funding.

include connections to the detailed input and guidance developed by the Quality Enhancement Working Group.

- The Guidelines have been developed by applying the lens of each of the principles within each contextual category. The following guiding principles were adapted from the Digital Learning Advisory Committee’s foundational documents.

Guiding Principles

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

Inclusive and universal design for learning (UDL): Courses at the post-secondary level should adopt universal³ and inclusive⁴ design for learning and recognize all learning modalities, and pedagogies.

Accessibility, affordability, and sustainability: Post-secondary education should be accessible,⁵ affordable,⁶ and sustainable,⁷ promoting access and success for learners of all backgrounds, contexts, and worldviews.

Human-centred:

- **Learners:** Flexible models for learning, support, and services are developed by putting learners’ needs first, including support for mental health⁸ and wellbeing, a trauma-informed approach,⁹ community-building, flexible and appropriate assessments that are responsive to learner needs. These should support social and community spaces within and beyond the digital space so learners can fully participate in a digital society.
- **Educators and staff:** Educators and staff wellbeing is prioritized and supported across modalities and in all post-secondary environments. This includes considering workload, professional development opportunities, health and wellbeing supports, and trauma-informed leave policies.

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

³ Takacs, S., Zhang, J., Lee, H. (2020). Universal Design for Learning: Strategies for Blended and Online Learning. Centre for Teaching, Learning, and Innovation. Justice Institute of British Columbia.

⁴ [Equity, Diversity and Inclusion in Online Teaching: Where to Begin? \(ubc.ca\)](#)

⁵ [Accessibility and Inclusion Toolkit - Province of British Columbia \(gov.bc.ca\)](#)

⁶ Making Post-Secondary Education Affordable for British Columbians: A framework for a high quality, affordable post-secondary education system in British Columbia. British Columbia Federation of Students [BCFS-Lobby-Document-2018-small.pdf \(d3n8a8pro7vhmx.cloudfront.net\)](#)

⁷ [Education for sustainable development for 2030 toolbox \(unesco.org\)](#)

⁸ Mental health and Substance Use Supports in BC - [Students - Province of British Columbia \(gov.bc.ca\)](#)

⁹ A resource for service organizations and providers to deliver services that are trauma-informed. [Trauma-informed Toolkit.pdf](#)

Promote lasting and meaningful reconciliation and embed decolonization practices: Post-secondary education in BC must advance decolonization, reconciliation, Indigenization, and recognition of Indigenous knowledge, pedagogies, and learning.^{10, 11, 12, 13, 14}

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 security and privacy risks: Keep learners, educators, and staff safe by increasing privacy and security safeguards within the digital learning environment and providing privacy and security information through enhanced digital literacy.

Guidelines for Technology-Enhanced Learning

Making digital post-secondary education inclusive of all

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

- Consider the experiences of Indigenous Peoples,¹⁵ Black people, people of colour, immigrants, refugees, international students, persons with disabilities, people responding to trauma, the 2SLGBTQQA+¹⁶ community, and minority communities by applying [Gender-Based Analysis Plus \(GBA+\)](#) as an analytical tool. This will ensure policies and initiatives assess systemic inequalities and address how diverse groups of people may experience policies, programs and initiatives differently.
- Set measurable targets and timelines for the implementation of [UDL](#), [accessibility standards](#) and legislation ([Accessible B.C. Act and Accessible B.C. Regulation](#)),¹⁷ [UNDRIP legislation](#), [Declaration on the Rights of Indigenous Peoples Act Action Plan](#), and the Indigenous Post-Secondary Education and Skills Training Policy Framework in the adoption of the principles and guidelines.
- Assess the ethical implications for using digital tools and technologies used to support technology-enhanced learning.

¹⁰ *Honouring the truth, reconciling for the future: summary of the final report of the Truth and Reconciliation Commission of Canada* (Ottawa: 2015).

¹¹ [United Nations Declaration on the Rights of Indigenous Peoples Act \(justice.gc.ca\)](#)

¹² Canada, *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).

¹³ [In-Plain-Sight-Data-Report_Dec2020.pdf1 .pdf \(gov.bc.ca\)](#)

¹⁴ [Disaggregated demographic data collection in British Columbia: The grandmother perspective - BC's Office of the Human Rights Commissioner \(bchumanrights.ca\)](#)

¹⁵ See more at: [Declaration on The Rights of Indigenous Peoples Act Action Plan 2022-2027](#)

¹⁶ The acronym 2SLGBTQQA+ represents those who are Two-Spirit, Lesbian, Gay, Bisexual, Transgender, Queer, Questioning, Intersex, Asexual, and all additional sexual orientations and gender identities.

¹⁷ The *Accessible British Columbia Act* received Royal Assent on June 17, 2021. The legislation aims to identify, remove and prevent barriers faced by people with disabilities in British Columbia. It also enables government to develop accessibility standards in areas such as: employment, delivery of services, the built environment, information and communications, transportation, health, education and procurement. Post-secondary institutions are prescribed in the *Accessible B.C. Regulation* and will be required to develop an accessibility plan, establish an accessibility committee and feedback mechanism by September 1, 2023.

Advancing lasting and meaningful reconciliation and decolonization in technology-enhanced learning environments

Digital PSE in BC must achieve true, meaningful, and lasting reconciliation with Indigenous Peoples. It should advance and implement decolonial practices, promote Indigenization,¹⁸ and recognize Indigenous knowledge, pedagogies, and learning. To achieve these goals, technology-enhanced learning should:

- Consult with Indigenous Elders and the First Nations Technology Council to ensure that:
 - *“Every Indigenous person, community and Nation is fully equipped to access and effectively use technology to contribute, thrive, and succeed in today’s digital society while preserving self-determination.”*¹⁹
 - Educators, learners, and staff understand appropriate sharing protocols of Indigenous knowledge and data and cultivate a welcoming and culturally appropriate learning environment.
 - PSIs collaborate with Indigenous communities to ensure that intellectual property management, labelling and licensing approaches 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.
- Foster collaboration with Indigenous communities on digital learning opportunities and resources and consult Indigenous Peoples in developing digital policies and programs.

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

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

- Make use of free digital materials, low-cost and/or free print materials to learners by default to minimize the impact of technology on the cost and sustainability of digital post-secondary education and mitigate the digital divide.
- Adopt approaches to reduce the physical and digital environmental impact associated with digital technologies. For example, through technology borrowing programs (hardware and software), responsible end-of-life for technology, etc.
- Offer equitable and inclusive learning opportunities, such as ensuring part-time options for credentials, synchronous, asynchronous, and hybrid scheduling, accommodations for exams (off-campus/on-campus), physical spaces suitable for online learning, etc., to the extent possible, respecting different pedagogical approaches, and the need to meet program objectives and accreditation standards.

Taking a human-centred approach

Technology-enhanced learning should be human-centred, and:

¹⁸ At the Justice Institute of British Columbia, Indigenization is “a commitment to understanding the historical, social, and economic conditions of Indigenous populations. With this understanding, we work to foster respect and understanding of the cultures, traditions, languages and protocols of Indigenous Peoples in the learning environment”. See more at: <[Indigenization | Justice Institute of British Columbia \(jibc.ca\)](#)>

¹⁹ [Digital Equity – First Nations Technology Council](#).

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

Providing lifelong learning opportunities

Participation in digital PSE should be fostered at all points along a person's learning and career journey.

To achieve this goal, technology-enhanced learning should:

- Foster and develop localized digital literacy policies, increasing digital literacy for all people within post-secondary communities, including immigrants, refugees, English as second language (ESL) learners, educators, and staff, retirees, and others who face barriers to accessing the PSS.
- Provide 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 are required across BC's PSS to reduce the escalating costs related to digital technologies, and to improve the sustainability of BC's post-secondary institutions in response to increasing demands for digital and open infrastructure including hardware, software, and human resources. To achieve this goal, technology-enhanced learning should:

- Mitigate barriers associated with the digital divide and inequity in technology access by providing low and no-tech alternatives to accessing and completing the coursework where appropriate.
 - Clarify how required technologies support learning outcomes.
 - Provide 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 to maintain a healthy balance. For example, online course materials may be made available for download, provided on USB devices, or provided printed copies at no cost for learners.
- Providing physical spaces suitable for online learning both on-campus and in communities.
- Providing access to appropriate hardware and software that meet accessibility needs on and off-campus through lending and bulk procurement programs.
- Cultivate digital talent and shared expertise amongst learners, educators, staff, and industry to contribute with 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 required to develop BC's digital capabilities, both within the PSI, the PSS, and within BC more broadly. To achieve this goal, technology-enhanced learning should:

- Foster collaboration across PSIs and the system to reinforce and enhance the successful implementation of digital learning models and technology to increase access to PSE and mobility within BC's PSS.

- Foster 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, to learners.
 - Joint procurement processes as the default for large commodity technology purchases.
 - Collaboration to develop and maintain a repository of software applications and platforms in use across the post-secondary system.
- Foster collaboration across PSIs and the system to enable programs, courses, technology, services, materials, and human resources sharing and transfer.
- Develop an annual forum on digital learning, pedagogy, and teaching and learning expertise (recommendation '1d').
 - In conjunction with the annual forum, PSIs should maintain a publicly available repository of reports on their progress in implementing these Guidelines (Digital Learning Enhancement Report) and informing system strategies within PSIs and more broadly to learners, educators, staff, and communities.

Making the digital space safer

The digital PSS should address security and privacy risks, as well as prejudice and biases, to keep learners, educators, and staff safe. To achieve this goal, technology-enhanced learning should:

- Comply with applicable privacy and security legislation and policies.
- Develop and apply guidelines for selecting and implementing learning technology tools that actively promote considerations regarding data storage, security, and privacy.
- Develop and implement a set of Ethical Guidelines for Educational Technology and support the post-secondary system in implementing the forthcoming accessibility legislation within digital spaces and technologies as well as current and emerging best practices to increase diversity, inclusion, and safety in digital spaces by:
 - Considering and recognizing the needs of diverse communities, especially Indigenous Peoples, Black people and people of colour, immigrants, refugees, persons with disabilities, the 2SLGBTQQIA + community, and minority communities.
 - Implementing a code of conduct for online events.
 - Offering training for learners, educators and staff regarding prejudices, biases, and colonial constructs in the digital environment.
 - Being flexible in allowing or disallowing anonymous contributions and enabling and disabling comments in virtual platforms.

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

Research and evaluation about technology-enhanced learning environment should:

- Encourage the application of evidence-based methods and practices in the use of digital technologies in the PSS.
- Explore the effects of flexible learning on mental health and how online learning impacts learner, educator, and staff wellness and success.
- Seek to identify learners who are not accessing PSE, those facing barriers to access, and those most susceptible to attrition, and identify actionable strategies to reduce barriers through the use of digital technology, as well as those barriers introduced by digital technologies.

Institutional leadership strategies for technology-enhanced learning

In a technology-enhanced learning environment, institutional leadership should adopt strategies to:

- Include pedagogy, digital literacy, and teaching and learning expertise in the decision-making process for technology procurement, development, and implementation.
- Establish targets and timelines for improving digital learning, digital literacy, digital accessibility, and diversity and inclusion in digital environments.
- Implement institutional review processes to ensure that all post-secondary institutions periodically conduct rigorous and ongoing program and institutional quality assessments.
 - For example, the [Quality Assurance Process Audit \(QAPA\)](#).
- Develop strategies for evaluating the implementation and outcomes of technology-enhanced learning practices, identifying gaps and proposing actionable strategies to address them.
- Create collaborative pathways for the adoption of digital technologies across departments, faculties, and other PSIs.
- Develop collaborative funding models focused on online programs.
- Leverage collaboration between educators, staff, learners, and stakeholders, including advisors, learning designers, and educational technology and teaching and learning expertise, when applicable, when designing courses and programs.
- Incorporate these Guidelines for Technology-Enhanced Learning within existing evaluation processes for teaching, course, and/or program review.

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 PSIs. See more at: [Accessibility legislation - Province of British Columbia \(gov.bc.ca\)](#)

Digital divide: The digital divide is the gap that exists between individuals who have access to modern information and communication technology and those who lack access. See more at: [What is the Digital Divide? | Digital Divide Council](#).

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 DLS, sustainability is not just environmentalism, there is also concerns for social equity and economic development.

- 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?” [\(mcgill.ca\)](#)

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.pdf](#).

United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) legislation: The [United Nations Declaration on the Rights of Indigenous Peoples](#) is about the respect and recognition of the human rights of Indigenous Peoples. On June 21st, 2021, [United Nations Declaration on the Rights of Indigenous Peoples Act](#) received Royal Assent and came into force. This Act provides a roadmap for the Government of Canada and Indigenous Peoples to work together to implement the Declaration based on lasting reconciliation, healing, and cooperative relations. See more at: [United Nations Declaration on the Rights of Indigenous Peoples Act \(justice.gc.ca\)](#).

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.²⁰ 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.

²⁰ [CAST: About Universal Design for Learning](#)

Appendix 2: Digital Literacy Framework

Introduction:

The BC Post-Secondary Digital Literacy Framework was developed to support the development of digital literacy knowledge, skills, and abilities across post-secondary communities. In alignment with Strategic Action 1b, this framework can be leveraged to inform localized digital literacy policies and inform open education resources with the overall impact of providing pathways to enhance digital literacy throughout the post-secondary system. Digital literacy is increasingly recognized as a vital skill: as stated in UNESCO's (2021) digital literacy skills framework, "digital literacy and access are a basic right in the twenty-first century; without them it is increasingly difficult to participate civically and economically" (p. 34).

Digital inclusion, or a person's access to adequate hardware and software, is a required for developing digital literacy. This framework assumes that individuals are digitally included in society; however, it is acknowledged that not all people are included in digital spaces. Therefore, in parallel to the application of this framework, post-secondary institutions (PSIs) are encouraged to consider and address barriers learners might encounter when accessing digital learning spaces including connectivity, software, devices, and learning spaces.

Purpose:

The intention of this framework is to define digital literacy and the associated knowledge, skills, and abilities necessary to participate in digital society, specifically among members of post-secondary communities. Digital literacy is intended to support accessible, inclusive, and equitable digital environments for members of the post-secondary system. This work assumes that digital literacy will support people as they move from the post-secondary system into the workforce.

This document strives to support Indigenization and decolonization in digital spaces by incorporating the Declaration on the Rights of Indigenous Peoples Act (DRIPA) Action Plan (2022) and calls to action from the Truth and Reconciliation Commission. This includes knowledge, skills, and abilities specific to decolonizing and Indigenizing digital spaces across populations. We hope that anyone reading this framework will take Indigenization to heart.

Proviso:

This framework is intended to provide post-secondary institutions (PSIs) with guidelines for developing digital literacy policies and tools. PSIs are encouraged to adapt this framework to their own unique needs. Not all components of this framework will directly apply to shorter duration training programs.

Structure of this document:

- 1. Definition:** The Digital Literacy definition used in this framework.
- 2. Instructional Resources:** Recommended approaches for increasing digital literacy in post-secondary communities.
- 3. Thematic Competencies:** This draft framework includes eight thematic competencies within digital literacy. These competencies are broken down into the ideal skills, knowledge, and abilities of people in different post-secondary populations. The thematic competencies are: Ethical and Legal; Technology; Information Literacy; Digital Scholarship; Communication and Collaboration; Creation and Curation; Digital Wellbeing; and Community-Based Learning. The

population groupings include Digital Citizens, Indigenous Peoples, Incoming Learners, Program Graduates, Educators.

The thematic competencies reflect the desired levels of digital literacy within these populations; however, not everybody has equal opportunities to develop digital literacy. A few notes on populations:

- The populations are not mutually exclusive, and people can identify with one or more population group within the framework. For these individuals, the skills are cumulative.
- The phrase Digital Citizens is used to describe all people who use the internet.
- Incoming learners are people participating in post-secondary studies for the first time.
- Program graduates are people who have completed a post-secondary credential, whose expertise increases as they advance their educations further.

1. Definition:

Digital literacy is a person's abilities, skills, and knowledge for using digital tools ethically, effectively, and within a variety of contexts in order to access, interpret, and evaluate information, as well as to create, construct new knowledge, and communicate with others.

2. Instructional Resources:

Three pathways were identified to increase digital literacy across post-secondary communities. These pathways will use the final draft of this framework to inform the development of educational resources.

Pathway 1: Open Education Resource (OER) Repository

An OER repository containing digital literacy materials will allow educators to easily integrate competency-specific materials into courses. As the repository grows, content pertaining to different fields could become available. This will allow educators to expand learners' digital literacy skills without greatly increasing their workloads.

Pathway 2: Micro-credential

Creating a micro-credential with stackable courses and multiple entry and exit points could provide professional development to educators and staff; additionally, this could be open to the public and increase digital literacy skills throughout the province, potentially through facilitated courses at public libraries or other organizations, such as First Nations Technology Council, Community Adult Literacy Programs, MediaSmarts, etc. This would allow all post-secondary institutions to provide their workforce with equal digital literacy competencies, regardless of institutional size or financial resources. Entry and exit points could be tailored to supporting personal digital literacy or developing digital literacy in learners.

Pathway 3: Credit Courses

PSIs could develop or increase the delivery of credit courses related to digital literacy, or intentionally create space in existing courses for learners to develop digital literacy competencies. Eventually, a digital literacy breadth requirement could be included within program requirements.

3. Thematic Competencies:

Ethical and Legal Considerations:

You understand and abide by privacy, informed consent, inclusion, and accessibility principles and laws in digital spaces. You recognize when these principles are not being upheld. You are aware that power inequalities can exist in digital spaces, and you contribute to equitable and safer spaces.

If you are a digital citizen:

- You develop content that follows accessibility standards and guidelines.
- You obtain consent before sharing personal or private information about others online (BC Ministry of Education, n.d.).
- You securely store, access, and communicate your own private information online.
- You do not illegally download or pirate media from online sources (i.e., movies, music, etc.).
- You understand that the worldviews of developers are built into the technologies they create, including biased and colonial constructs (Gillespie, 2018; Dirksen, 2020), and you actively seek out and choose decolonized and Indigenized alternatives whenever possible.
- You recognize that power imbalances may determine how people interact in online spaces, which can stem from inequitable access, rights, representation, and levels of risk in digital spaces (Feerrar & Hammer, 2019).
- You understand the differences between copyright and open-source information, and you use content appropriately based on its source (BC Ministry of Education, n.d.).
- You follow Indigenous protocols for using Indigenous knowledge, information, and intellectual property, and you know that not all knowledge is appropriate for public sharing.
- You uphold and act upon the calls to action and articles listed in the Canadian Truth and Reconciliation Commission and the United Nations Declaration on the Rights of Indigenous Peoples in all questions pertaining to Indigenous rights in digital spaces.
- You meaningfully consult and include Indigenous Peoples in the development of programs and policies (McMahon, 2020).
- You look to community protocols if you are digitizing Indigenous knowledge, records, and histories (McMahon, 2020).

If you are an incoming learner:

- You understand and follow academic integrity guidelines regarding citing sources and avoiding plagiarism in digital learning spaces (BC Ministry of Education, n.d.).

If you have graduated from your program:

- You stay up to date with ethical guidelines in your field as they evolve.

If you are an educator:

- You ensure that learners either already have the digital skills they need for their coursework or that they know where they can access support and assistance.
- You provide alternative participation methods in courses where assignments require learners to publish information in the public domain. This includes creating replacement assignments or allowing learners to use pseudonyms instead of real names.
- You do not require social media for course participation unless it is relevant to the learning outcomes.

- You are aware that digital learning spaces are not equally accessible to everyone and can create barriers particularly for Indigenous learners.

If you are an Indigenous person:

- You are aware of your data rights and participate in your community's data sovereignty protocols (McMahon, 2020; First Nations Information Governance Centre, n.d.). This includes leading policy and process decisions about the appropriate use of digital technologies in your community (McMahon, 2020).

Technology Supports

You explore new technologies with curiosity, have troubleshooting skills, and intentionally select appropriate tools for different tasks.

If you are a digital citizen:

- You can use common operating systems and software.
- You can save and access documents and understand different types of data storage (hard drives, external drives, cloud drives).
- You make informed decisions about why and how you integrate technologies into daily life (BC Ministry of Education, n.d.).
- You use strong and unique passwords, including through a secure password manager, for different sign-in services.
- You can troubleshoot when technology does not work as intended (Australian Government Department of Education, Skills and Employment, 2020).
- You are open to using digital technologies to learn in new ways, and approach them with confidence, curiosity, and intention (Maryland Department of Labour, 2019).
- You can use digital devices to conduct daily tasks safely and securely (i.e., paying bills, scheduling appointments, filling out forms, etc.) (BC Ministry of Education, n.d.).

If you are an incoming learner:

- You have strategies for learning how to use new technologies (Australian Government Department of Education, Skills and Employment, 2020).

If you have graduated from your program:

- You know how to use technology that is specific to your work or studies.
- You adapt to new technology in your field, and you support your peers with adopting new tools.

If you are an educator:

- You mindfully select technology for your courses, which includes considering ethics, accessibility, technical support resources at your institution, affordability, Indigenization, decolonization, and learners' cognitive loads (Sator & Williams, 2020).
 - You connect learners with support for using campus-wide technologies.
 - If you introduce new technology to learners, you provide clear instructions for the technology, offer technical support, and provide them with support resources (i.e., vendor contact information, user guides, etc.) (Sator & Williams, 2020).
- You work with Teaching and Learning Centres (or equivalent) to ensure that course materials, assessments, and activities are centred around accessibility and inclusion.

- o This includes making sure materials posted online follow accessibility protocols such as Web Content Accessibility Guidelines, links work and are not broken, course site is easy to navigate, etc.
- You actively seek out and choose technologies that support Indigenous self-determination, including the use of Indigenous knowledge and cultural expressions (Innovation, science and economic development Canada, 2020).

If you are an Indigenous person:

- You have access to keyboards that use Indigenous lettering and languages (First Peoples' Cultural Council, 2020).

Information Literacy:

You demonstrate information literacy by using critical thinking skills, which includes understanding how online information is produced, prioritized, and presented. You recognize that online information can provide different perspectives and ways of knowing. You are aware of biases within online content and technology and can identify trustworthy sources.

If you are a digital citizen:

- *Informed Decisions:*
 - o You make informed decisions about the online content you consume, and which search engines you use.
 - o You understand that search results are modified by search engines, search history, geographic location, algorithms, manual and/or automated content moderation, search engine optimization, targeted advertisements, and marketing (Gillespie, 2018). These factors contribute to presenting people with different results for the same search, and you know that search results may not accurately represent relevant or available information (Feerrar & Hammer, 2019).
 - o You recognize that people provide their own perspective in their work; you use digital technology to seek out and understand different valid perspectives and viewpoints.
- *Truth and Misinformation:*
 - o You are aware that false information can easily spread online, including through social media, websites, images, and videos.
 - o You know that anybody can publish online, and that widespread or viral information is not always accurate.
 - o You know that image-altering software is widespread and frequently used, especially on social media.
 - o You know that even if a person appears in a video, it does not mean that they participated in its production or are aware of its existence. This is because online software can create false videos showing people doing things they did not do or saying things they did not say.
 - o You know that information online can be presented through different worldviews and may not reflect other interpretations.
 - o You have strategies to determine if online content is authentic and/or accurate, such as SIFT (Stop, Investigate, Find, Trace) and CRAAP (Currency, Relevance, Authority, Accuracy, Purpose).
- If you are working with Traditional Cultural Knowledge, you follow the appropriate intellectual property protocols and recognize Indigenous communities as the maintainers and controllers of

digitized “cultural heritage resources, intellectual property, art, and knowledge systems” (DRIPA Action Plan, 2022, p. 22).

If you are an incoming learner:

- You can identify and appropriately use different types of online information, including:
 - o Scholarly information,
 - o Information from general web searches (social media, images, videos, news, blogs, websites, etc.),
 - o Crowd-sourced information,
 - o Advertisements,
 - o Viral or sensationalized content.

If you have graduated from your program:

- You realize that the technology you use to learn or complete schoolwork can influence your understanding, and you know that these technologies can spread biased perspectives.

If you are an educator:

- You provide experiential information literacy lessons (e.g., everyone googles the same thing at the same time and shares how their results are different).
- You use digital information and tools to expand knowledge and provide multiple perspectives in coursework.

Digital Scholarship:

You intentionally and purposefully use digital technologies for learning, including developing effective research, critical thinking, problem solving, analysis, and decision-making skills (Australian Government Department of Education, Skills and Employment, 2020; BC Ministry of Education, n.d.; Maryland Department of Labour, 2019; Riel et al., 2012).

If you are a digital citizen:

- You feel confident when you are participating in online learning opportunities (Jisc, 2019).
- You seek out and follow Indigenous community protocols when you work with Indigenous knowledge or data.
- If you develop educational technologies, you decolonize and Indigenize your products, which can include using [Indigenization guides](#) like those developed at BCcampus.
- You support Indigenous self-determination by seeking out and following community protocols, protecting intellectual property rights, and prioritizing Indigenous data sovereignty.
- You identify opportunities to share your research processes, data, and results. This can include choosing and using open access platforms that promote improved scholarship and equitable access to knowledge.

If you are an incoming learner:

- You seek out online and in-person campus supports to support your learning (i.e., Library services, academic communication supports, Teaching and Learning Centres, etc.).
- You know the difference between academic and non-academic sources online.
- You can successfully complete the online components of courses.
- You engage respectfully in digital academic spaces.

- You know that the location and format of digital information can change, and sometimes content can disappear.

If you have graduated from your program:

- You can find, organize, accurately interpret, analyze, ethically use, synthesize, and communicate information in digital spaces (BC Ministry of Education, n.d.; Jisc, 2019; Maryland Department of Labour, 2019).
- You can use digital library resources and filters to refine search results.
- You understand how digital technologies are used to contribute to research in your field.

If you are an educator:

- You teach citation methods, and you refer students to resources if they are struggling with academic integrity in digital spaces.
- You develop professionally to provide inclusive, accessible, and supportive online learning environments.
- You model digital scholarship by sharing digital research strategies, tools, and methods.
- You use appropriate types of digital media for teaching and assessment (Jisc, 2019).
- You collaborate with peers to develop digital learning opportunities, maintain consistency across curriculums, and build digital skills of learner populations (Jisc, 2019).
- You seek out, use, and inform others of Indigenized and/or decolonized digital technologies.

If you are an Indigenous person:

- You seek out and choose digital tools that support vital cultural learning and documentation within your community.

Communication and Collaboration:

You can use online tools to communicate and collaborate, and you make valuable contributions in digital spaces. You intentionally craft your messages based on how you want them to be interpreted.

If you are a digital citizen:

- You know how to participate in online communities can collaborate with others in a variety of settings (academic, social, etc.).
- You can use technology to communicate complex ideas and share, interpret, and accurately understand digitally delivered information (Ministry of Education, n.d.).
- You make informed decisions about the best tools and methods for communicating with your audience (BC Ministry of Education, n.d.).
- You work with others and contribute to safe, positive online networks (Jisc, 2019).
- You can manage online events and create safe and secure online environments.
- You use tools and strategies for collaborating online (Feerrar & Hammer, 2019).
- You stay up to date with changes in communication and collaboration technologies.
- You feel confident to take appropriate actions when you see conflict, harassment, or abuse in online spaces.

If you are an incoming learner:

- You treat yourself and others with respect in online environments (Maryland Department of Labour, 2019).

- You choose tools that make it easy to collaborate and complete tasks (Maryland Department of Labour, 2019).
- You are flexible with how you work with others (online, in person, at the same time or at different times) (BC Ministry of Education, n.d.; Jisc, 2019).

If you have graduated from your program:

- You can lead projects and support a collaborative digital work culture.
- You can communicate in different ways, creating written, audio, infographic, video, or animated messages (Jisc, 2019).

If you are an educator:

- You seek out and connect learners with accessible and institutionally supported collaborative digital tools.
- You develop assignments that teach learners to work together in digital spaces and develop assessments that support digital collaboration.
- You understand that cultural values and lived experiences may lead to different ways of participating in online spaces (Sator & Williams, 2020).

If you are an Indigenous person:

- You know where to access Traditional Cultural Knowledge and digital archives (Galla, 2016).
- You know where to access digital language revitalization and reclamation tools to support Indigenous knowledge, culture, and language retention (Galla, 2016).

Creation and Curation:

You can think creatively, assemble, and develop accessible digital materials that are specific to different audiences and platforms (BC Ministry of Education, n.d.; Feerrar & Hammer, 2019; Maryland Department of Labour, 2019). You respect the intellectual property of others and are aware of your own intellectual property rights.

If you are a digital citizen:

- You use digital media to creatively express yourself, and you select the appropriate platform and medium for different types of expression (BC Ministry of Education, n.d.; Feerrar & Hammer, 2019).
- You have the opportunities, information, and skills to be creative in digital spaces, including developing works that align with your traditional cultural expressions.
- You follow accessibility guidelines when creating and sharing digital work.
- You think creatively and can use technology to express your ideas, either individually or as part of a group.
- You understand your intellectual property rights in digital spaces, and you make informed decisions about where you share your work.
- You understand and know how to apply open copyright licenses to your work if you choose (such as Creative Commons licenses).

If you are an incoming learner:

- You productively develop and contribute to positive, healthy online communities (BC Ministry of Education, n.d.; Maryland Department of Labour, 2019; Riel, 2012).

- You base your creative choices on who your audience is, the type of content you are producing, and where you are sharing your work (Feerrar & Hammer, 2019).

If you have graduated from your program:

- You can present information in digital formats like photos, infographics, audio or video recordings, etc.

If you are an educator:

- You uphold accessibility protocols when developing and distributing classroom materials (Feerrar & Hammer, 2019).
- You use technology to enhance digital learning opportunities (i.e., learning management systems, visuals, idea clouds, whiteboards, polls, etc.) to convey complex concepts.
- You provide opportunities for creative expression within digital learning spaces and assignments.

Digital Wellbeing:

This includes using technology to support your wellbeing and course-correcting when technologies negatively impact physical, mental, or emotional health. You have healthy boundaries with digital technologies and use them intentionally.

If you are a digital citizen:

- *Privacy and Security:*
 - o You realize that under current Canadian laws, online information about people is permanent, regardless of whether it is true, recent, or relevant.
 - o You are aware that search engines, websites, platforms, and the Internet of Things (i.e., wearable technologies, smart homes, etc.), and some emails track your online activity and create your digital footprint.
 - This can lead to privacy and surveillance concerns, especially for Indigenous Peoples (McMahon, 2020).
 - o You recognize that you may not be able to control how your online information is used, and you may not be able to fully delete content later (Gillespie, 2018).
 - o You recognize that photos posted on the internet can contain metadata, including the photo's location.
 - o You know that Indigenous knowledge and data can be commodified in digital spaces, and you do not perpetuate this issue (McMahon, 2020; Abdelaal & Andrey, 2022).
 - o You recognize that surveillance through artificial intelligence and algorithms can disproportionately target and impact some segments of the population more than others, including populations that experience discrimination and/or barriers (Abdelaal & Andrey, 2022); you take steps to protect yourself and others.
- *Identity:*
 - o You intentionally create and manage your online identity and understand that it can influence your sense of self, your personal life, and your professional life (Feerrar & Hammer, 2019; Mauthner & Kazimierczak, 2018).
 - o You are cautious when you meet people online since they may not be who they say they are (BC Ministry of Education, n.d.).
 - o You protect your identity and the identity of others when sharing information online.
- *Safety:*

- o You participate in online safety training.
- o You protect personal, private, and sensitive information in digital spaces (Abdelaal & Andrey, 2022).
- o You do not participate in cyberbullying; you identify cyberbullying and are aware of intervention methods (BC Ministry of Education, n. d.).
- o You protect yourself and others from hate speech, Internet-facilitated sexual violence, and racial and gendered violence in online spaces.
- o You support psychological safety in digital spaces.
- o You are aware that the mainstream internet and dark web both contain spaces that exhibit toxicity, misogyny, racism, sexism, violence, objectification, and sexual violence against women, nonbinary people, children, animals, etc.
- *Health:*
 - o You make informed health-related decisions, which can include decisions that pertain to you, your dependents, or your community (U.S. Centers for Disease Control and Prevention, 2022). This includes securely storing digital health records, accessing remote healthcare services, and mindfully using wearable health technologies (i.e., pedometers, heartrate, insulin, sleep monitors, etc.).
 - o You intentionally curate your social media feeds and take breaks from social media when it is impacting your wellbeing.
 - o You recognize that social media content is carefully curated and can be edited, and that images do not reflect authentic experiences or reality; social media can host dangerous content leading to harmful behaviours.
 - o You determine and maintain a healthy balance between online and offline activities.
- *Financial and economic wellbeing:*
 - o You understand the risks associated with online currencies.
 - o You use secure internet connections for online transactions and banking.
 - o You make informed decisions about gaming and in-app payments.

Community-Based Learning:

You work with individuals and communities to support digital projects. This can include placing Indigenous or community knowledge and cultural practices at the centre of projects to produce mutually beneficial outcomes.

If you are a digital citizen:

- You recognize that access and expertise with digital technologies may vary across and within communities, and you find ways to navigate these differences.
- You understand that frequently presented or dominant thoughts are not correct by default.
- You understand that digital spaces are often colonial constructs, and you consult with experts to decolonize your work.
- You listen to community partners and follow community leadership in all community-based projects.
- You support Indigenization in digital spaces and recognize that Indigenous Peoples own their own data (Abdelaal & Andrey, 2022).
- You regularly update Indigenous communities and knowledge keepers on the progress made in community-based research efforts (McMahon et al., 2016).
- You recognize that communities may have their own ways of working in digital spaces.

- You support community partners in making decisions regarding how technology will be used in projects and initiatives.

If you are an incoming learner:

- You are open and curious about Indigenous-led community projects.
- You use your digital skills to meaningfully contribute to community projects.
- You reflect on the many different types of lesson provided within community-based learning.

If you are an educator:

- You support a co-creational model, placing community expertise at the centre of projects and leadership. Your students help digitize and disseminate knowledge under the direction of the community's leadership.
- You provide opportunities for learners to participate in community-based learning by building and maintaining relationships.
- You listen to and prioritize community needs, and work with local experts and learners to meet those needs.
- You develop a safe, decolonized digital space for community/learner collaborations.

If you are an Indigenous person:

- You choose how your digital information is used and shared, including cultural and historical records (McMahon, 2020).

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Appendix 3: Technology, Finance, and Administration Key Themes and Needs & Capabilities

This appendix describes how technological, financial, and administrative adjustments can improve technology-enhanced learning across BC. This is illustrated through key themes and system needs and capabilities.

Key Themes

- This section contains the highlighted outcomes that emerged from the Technology, Administration and Finance (TFA) Working Group's discussions: Collaboration across BC's post-secondary system would better support sustainable identification, adoption, and implementation of digital infrastructure including hardware, software, and human resources.
 - This includes leveraging existing expertise in specific areas of technology within post-secondary institutions,
 - Fostering partnerships and system-wide approaches to increase capacity within the post-secondary system in areas of development, procurement, and support for innovative technology solutions, and
 - Leveraging joint procurement for technology purchases and expertise (recommendation '2c'), and shared services, such as shared helpdesk for remote learners, educators, and staff (recommendation '3d:ii'), by default.
- Technology development, including open-source program development (recommendation '3d:a'), is an emerging aspect of research and innovation in the post-secondary education system.
 - Includes the cultivation and application of digital talent and shared expertise within the post-secondary community by creating models for students, educators, staff, and industry to contribute with solutions to institutional and community technology needs.
- The post-secondary system plays an integral role in supporting digital equity²¹ amongst prospective and current learners, educators, staff, and the community:
 - Supporting access to appropriate devices and software for accessibility requirements on and off-campus.
 - Providing spaces suitable for online learning both on-campus and in communities.
 - Providing access to learning opportunities for individuals within limited network connectivity.
- The sustainability of post-secondary institutions includes appropriately disposing of electronic devices and reducing the physical and digital environmental impact associated with digital technologies. This includes:
 - Reusing, refurbishing, upcycling, and recycling hardware.
 - Leveraging remote applications and software services (recommendation 3e) to extend digital device lifetimes and reduce the need to replace devices.

These themes illustrate emergent needs across BC's post-secondary system and are detailed later in this appendix.

²¹ Refers to equitable access to the skills, equipment, networks, software, and career opportunities associated with digital technologies.

Needs and Capabilities Mapping

This section contains the detailed input from the Technology, Administration and Finance Working Group's Needs and Capabilities Mapping.

Post-Secondary System Needs and Innovative Supports:

The following points summarize supports identified by the TFA Working Group to meet the system's needs across various levels of the BC's post-secondary system:

Post-Secondary System:

- Initiate a provincial Open-Source Programs Office (OSPO) to support post-secondary educational and administrative technologies (recommendation 3d:i). The OSPO will have expertise in developing, licensing, adopting, and managing intellectual property in open-source technologies.
- Coordinate with BCNET to support shared hardware and software procurement (recommendations '2c' and '3a') and PIAs (Privacy Impact Assessments) across the system.
- Develop cross-functional and cross-institutional resource sharing platforms for human resources, software, etc.
 - Framework and/or platform for access to specialized expertise (pre-approved or pre-existing agreements).
- Develop a clear pathway for talent development. For example, an individual obtains a diploma as the foundation, and builds up knowledge with ongoing training, specialized education programs for public sector IT or participation in BCNET's annual conference for sharing..
- A model for software consortium licensing is developed for volume licensing, vendor relationship management, etc.
- Develop a Digital Asset Inventory/Tracker to help identify opportunities where developments are needed or have already been made.

Post-Secondary Institutions:

- Provide hardware and software provisions for learners.
- Create and/or provide virtual and/or remote software that leverages remote application and software services (recommendation '3e').
- Lead project and change management to grow staff and learners skill development.
- Coordination across PSIs to access specialized skills through skill pools or exchanges, including learners skill polls.

Current Learners:

- Have access to hardware, software, and physical spaces on and off-campus that are required for equitable learning opportunities.
- Access to mentorship opportunities within OSS spaces.

Communities:

- Learners, educators, and staff can access training opportunities to develop new skills and participate in projects in emerging digital fields, such as open-source software development, IT (Information Technology) support, privacy, etc.

- Current and recently graduated students can access mentorship opportunities in current and emerging fields, including open-source software development.

Post-Secondary System Capabilities:

BC's post-secondary institutions benefit from robust and well-established system-level supports. These include organizations and their mandates and advisory bodies (see Capabilities Mapping below). Many of these may be called upon for consultation, engagement, and support as part of this work.

Additional details: CAPABILITIES MAPPING

BC'S post-secondary organizations and their mandates

Assistive Technology BC: Assistive Technology BC (ATBC) Provides assistive technology resources to make learning environments usable for people with disabilities throughout BC. In collaboration with persons with disabilities, post-secondary institutions, community organizations, and their funding partners, ATBC offers a wide range of individualized, centrally coordinated technology services including assessments, assistive equipment, training, and consultation to enable persons with disabilities to achieve their educational goals.

BCcampus: Enable a systemic approach to the improvement of student learning in BC by providing support, resources, and collaborative leadership to learning and teaching in the BC post-secondary system, which includes Open Education, digital learning, and the creation of learning environments that are inclusive of all students.

BC Council on Admissions & Transfer (BCCAT): Facilitate admission, articulation, and transfer arrangements among BC post-secondary institutions.

BC Electronic Library Network: Develop, promote, and maintain system-wide mechanisms that allow post-secondary libraries in BC to equitably meet the expanding information needs of the province's learners, educators, and researchers at the lowest possible cost.

BCNET: BCNET is a not-for-profit, shared services organization that represents the interests of their members - colleges, universities, and research institutes in BC. They continuously engage with their members to explore, evaluate, and develop solutions that meet their unique needs. Their aim is to build value through collaboration, drive down costs, maximize efficiencies, expand services offerings, enhance service quality and further the mission of their members.

EducationPlannerBC: Connect students to post-secondary education opportunities and associated career paths by improving post-secondary planning and application services. Establish and maintain a provincial data exchange hub to support the transition of BC students into post-secondary and between institutions within the BC post-secondary system.

First Nations Technology Council: They are an Indigenous-led not-for-profit working to ensure that Indigenous Peoples have the tools, education, and support to thrive in the digital age. They are mandated by Indigenous Peoples in BC to advance digital and connected technologies.

OpenETC: The OpenETC is a community of educators, technologists, and designers sharing their expertise to foster and support open infrastructure for the BC post-secondary sector. Its services are hosted by BCNET in British Columbia and funded by BCcampus. Most post-secondary institutions in BC are members.

BC's post-secondary advisory bodies

Administrative Services Collaboration: The Administrative Services Collaborative (ASC)¹ is a collaboration on administrative and support services between BC's 25 public post-secondary institutions, BCNET, and the Ministry of Advanced Education, Skills, and Training

BC Association of Institutes and Universities: BCAIU represents the needs of members by serving as a united and effective voice on provincial and federal policy, learner support, education quality and research and innovation. BCAIU collaborates in advocacy efforts and works closely with several organizations including the Research Universities Council of BC and BC Colleges to further positive change in higher education.

BC Colleges: The role of the organization is to work closely with employers and key stakeholders regarding partnership opportunities, and to facilitate collaboration between the colleges so they can more effectively produce a well-educated and highly skilled workforce for BC.

BC Federation of Students: The BC Federation of Students is a provincial alliance of more than 170,000 students at 15 universities, colleges, and institutes in every part of BC. Together they work to provide students with an effective and unified voice to influence access to education.

BC Registrars Association: BCRA was formed by the registrars of the public post-secondary institutions of BC in 1996 to promote communication amongst the registrar's offices and encourage the professional development of their staff. Works with BCCAT, ARUCC, WARUCC.

BC Teaching and Learning Council: The BC Teaching & Learning Council consists of a community of leaders from BC's public post-secondary education system. Their mission is to provide local, provincial, and national leadership on issues, challenges, and directions around teaching, learning technologies, scholarly practice, student learning, and related topics to facilitate the enhancement of high-quality teaching and learning cultures across the BC system.

Center for Accessible Post-Secondary Education Resources: Centre for Accessible Post-secondary Education Resources BC (CAPER-BC) provides accessible learning and teaching materials to students and instructors who cannot use conventional print because of disabilities.

Educational Technology Users Group: The Educational Technology Users Group is a community that exists to empower and inspire all who design, develop, and support learning experiences

First Nations Education Steering Committee: The First Nations Education Steering Committee (FNESC) is a policy and advocacy organization that represents and works on behalf of First Nations in BC. FNESC has a mandate to support First Nations students and advance First Nations education in BC. Their mandate is "to facilitate discussion about education matters affecting First Nations in BC by disseminating information and soliciting input from First Nations. The primary goal is to promote and support the provision of quality education to First Nations learners in BC."

I-Lead: Advancing Campus Community (ACUI) has a project called i-Lead (US). ACUI's mission is to support its members in the development of community through education, advocacy, and the delivery of services. The Institute for Leadership Education and Development (I-LEAD) is a transformational experience, informed by student development and leadership theories, for inclusive leadership and community building, that provides space for college students to achieve the below Learning Outcomes. The key intended outcome of students participating in I-LEAD is that they will be able to relate the meaning of community and its importance to the role of the college union and student activities back to their leadership experiences beyond the institute.

Indigenous Adult and Higher Learning Association: IAHLA provides a unified voice for its member institutes and strives to support Aboriginal adult and post-secondary institutes through research, professional development, and networking opportunities. IAHLA is committed to building strategic partnerships to enhance the quality of education available for Aboriginal adult and post-secondary learners.

Metis Nation BC: MNBC's mandate is to develop and enhance opportunities for Métis communities by implementing culturally relevant social and economic programs and services.

Research Universities' Council of British Columbia: RUCBC works with and on behalf of its members to improve the quality, accessibility, and coordination of university education in BC. The Council provides a single voice on behalf of the six major universities on public policy issues including funding, research, accountability, admissions, and transfer. RUCBC is funded by member universities.

Canadian University Council of Chief Information Officers (CUCCIO): CUCCIO represents more than 60 universities across Canada, serving over 90% of Canada's university students. CUCCIO has the vision to become a leader in advancing the innovative and effective use of information and communications technology in higher education in Canada.

Ministry CIO Council: The Chief Information Officer Council (CIO Council) of the Province of British Columbia provides strategic advice and recommendations to the Government Chief Information Officer, ADMCST, and DMCPST regarding the standards, architecture, management and investment of information and technology (IM/IT). Its's mandate includes: *"Provides cross-government IM/IT leadership and maximizes investments; Endorse IM/IT capital investments for recommendation at DMCPST; Act as trusted advisors on IM/IT and business related issues to the GCIO and to ministry executive councils; Provides advice and endorsement on major IM/IT strategic planning, Standards, Architecture and policy issues; Provides advice back to the Government CIO office on business solutions and impacts on enablers and corporate services; Provides advice on IM/IT impacts to ADMCST. The ministry co-chair is a standing member of ADMCST; Provides a forum for receiving and sharing information and is expected to be the channel for communications of the IM/IT strategies, programs, services across the ministries; Provides guidance and advice on building capacity of the IM/IT profession in government."*

Appendix 4: Consultation and Implementation Strategy

Introduction

The previous sections introduced the Digital Learning Advisory Committee's collaborative efforts and output: the Digital Learning Strategy (DLS). The DLS includes strategic priorities and recommended actions, the Guidelines for Technology-Enhanced Learning, a Post-Secondary Digital Literacy Framework, and an assessment of BC's post-secondary systems needs and capabilities. The following pages detail the goals and plan for consultation on the DLAC's recommendations and proposed pilots and initiatives.

Currently, the Post-Secondary Digital Policies and Programs Branch in the Ministry of Advanced Education and Skills Training is actively seeking:

- Feedback from post-secondary stakeholders on the DLAC strategic priorities and recommended actions.
- Expressions of Interest from post-secondary institutions, system organizations, and other organizations or individuals for participation in the initiatives and pilots identified in the recommended actions. This includes expertise and resources that interested parties can provide to support the strategic action.

The actions and initiatives are in their formative stages, therefore interested parties will have the opportunity to inform and develop the details for implementation of an initiative.

Preliminary Consultation

Consultations were initiated in April 2022 and will continue throughout the Summer. Feedback will support the content refinement and the development of implementation plans for the recommended actions. The goal of these consultations is to create a strategy that reflects the needs of post-secondary populations. All strategic actions will include consultations with Indigenous organizations, institutes, leaders, and scholars. Through this process, an implementation plan will be developed specifically in relation to Indigenous communities and partners to ensure that objectives regarding decolonization and reconciliation are achieved.

Request for interest – DLAC initiatives and Pilot Projects

During the stakeholder consultation, the Ministry is seeking expressions of interest regarding participation in the proposed initiatives and pilot projects to determine their viability and to initiate more detailed planning with interested parties.

Information Sought:

The Ministry is seeking to establish partnerships with post-secondary institutions and organizations to engage in a series of proposed pilots or initiatives stemming from the recommended actions of the DLAC. These initiatives aim to provide provincial coordination to build capacity within the post-secondary system in areas of strategic importance regarding the success of learners and post-secondary institutions in the use of digital learning technologies, specifically where collaboration across multiple post-secondary institutions is a critical factor for success.

Digital Learning Strategy Pilots and Initiatives:

The following table provides details on some of the pilots and initiatives developed through consultations with the Digital Learning Advisory Committee and Working Groups.

Initiative/Pilot	Description	Anticipated Resources	Key Considerations
<p>Ethical Guidelines, Accessibility, and Inclusion.</p> <p>Action 1C</p>	<p>The Ministry and Post-Secondary System will develop a framework addressing the ethical impacts of technologies used within the post-secondary system, specifically considering the needs of people of all backgrounds, orientations, abilities, and socioeconomic statuses.</p>	<p>Expertise in ethics, educational technology, Indigenization, digital literacy, equity, privacy, OCIO, digital pedagogy, teaching and learning, learner success, information technologies, procurement, privacy impact assessments (PIAs), etc.</p>	<p>This framework will be developed using an interdisciplinary and intersectional model. Developing this framework will include monthly meetings for eight months to a year, asynchronous collaboration, and attending optional drop-in meetings.</p>
<p>Joint procurement of devices for learners</p> <p>Action 3A</p>	<p>Learners will be able to opt into purchasing the hardware and software necessary for technology-facilitated post-secondary studies at a reduced financial cost. Communication for opting into purchasing a laptop, mobile device, cellphone plan, and internet connection can be shared before the start of each term, allowing learners to collect their equipment one to two weeks before their studies.</p>	<p>Collaboration between BCNET and post-secondary institutions will be necessary to implement this strategic action.</p>	<p>A minimum of four to five participating post-secondary institutions is necessary for this pilot project.</p> <p>This initiative will need to be timed with post-secondary communications and admissions cycles.</p>
<p>Open-Source Programs Office (OSPO)</p> <p>Action 3D: i</p>	<p>A centre of excellence to lead the establishment of a platform and associated expertise to foster and scale the use, development, licensing, adoption, and intellectual property management of open-source software applications for</p>	<p>Host organization, open-source IT capabilities, DevOps, procurement, open-source contract, and licensing expertise.</p>	<p>Seeking to build from existing platforms where possible.</p> <p>Examples in other sectors/jurisdictions:</p> <ul style="list-style-type: none"> • BC Development Exchange – BC Public Service. • Digital Research and Curation Center –

	education technology purposes by learners, educators, and staff at all BC PSIs. Indigenous intellectual property and licensing.		John Hopkins University
Shared Helpdesk Action 3D: ii	The shared helpdesk is a learner-, educator-, and staff-oriented IT helpdesk, inclusive of remote learners. This helpdesk could be modelled off AskAway and WriteAway services run by the BC Electronic Libraries Network.	The success of this pilot project will require information technology capabilities including full-stack developers and web designers, individuals experienced in post-secondary helpdesk services. A host-organization, possibly BCNET, will also be required.	This will require a minimum of four to five participating post-secondary institutions.
Software Access for Remote Learners Action 3E	Exploration and identification of solutions to ensure that all learners have access the software necessary for their studies.	BCNET, shared procurement through participating institutions, a host organization,	This will require a minimum of four to five participating post-secondary institutions.

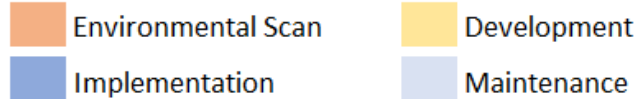
If you are interested in contributing to or participating in any of the strategic actions, all of which are listed on pages 6-10, please contact AEST.DPP@gov.bc.ca. Many of these strategic actions will require a variety of support for successful development and implementation including staff time, financial contributions, digital infrastructure, expertise, pilot hosting, consultations, etc.

Draft Implementation timeline:

Implementing the Digital Learning Strategy depends on interest in this work across the system. The figure below provides the first draft of a potential an implementation plan.

Preliminary Draft Implementation Plan

To be updated during socialization process



Action	2022				2023				2024			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
First draft of the Digital Learning Strategy	Implementation	Implementation										
Consultation and Socialization	Implementation	Implementation	Implementation	Maintenance	Maintenance	Maintenance	Maintenance	Maintenance	Maintenance			
Request for Interest & Recruitment	Implementation	Implementation	Implementation	Maintenance	Maintenance							
1A - Digital Learning Advisory Bodies at PSIs			Development	Development	Development	Implementation	Implementation	Implementation	Implementation	Implementation	Implementation	Implementation
1B - Localized Digital Literacy policies			Development	Development	Development	Implementation	Implementation	Implementation	Implementation	Implementation	Implementation	Implementation
1C - Ethical Guidelines, Accessibility, and Inclusion			Development	Development	Development	Development	Development	Development	Implementation	Implementation	Implementation	Implementation
1D - Provicncial digital learning advisory meetings			Maintenance	Maintenance	Maintenance	Maintenance	Maintenance	Maintenance	Maintenance	Maintenance	Maintenance	Maintenance
2A - Five-year technology investment strategy			Development	Development	Development	Implementation	Implementation	Implementation	Maintenance	Maintenance	Maintenance	Maintenance
2B - Software and platform repository		Environmental Scan	Environmental Scan	Development	Development	Implementation	Implementation	Implementation	Maintenance	Maintenance	Maintenance	Maintenance
2C - Joint procurement and shared services			Development	Development	Implementation	Maintenance	Maintenance	Maintenance	Maintenance	Maintenance	Maintenance	Maintenance
3A - Joint procurement of devices for learners		Environmental Scan	Environmental Scan	Development	Development	Development	Development	Development	Implementation	Implementation	Implementation	Maintenance
3B - Provincial advising supports		Environmental Scan	Environmental Scan	Development	Development	Development	Development	Development	Implementation	Implementation	Implementation	Maintenance
3C - Indigenous Intellectual Property Management		Environmental Scan	Environmental Scan	Development	Development	Development	Development	Development	Implementation	Implementation	Implementation	Maintenance
3D:i - Open Source Programs Office		Environmental Scan	Environmental Scan	Development	Development	Development	Implementation	Implementation	Implementation	Implementation	Implementation	Maintenance
3D:ii - Shared Helpdesk		Environmental Scan	Environmental Scan	Development	Development	Development	Implementation	Implementation	Implementation	Implementation	Implementation	Maintenance
3E - Software access for remote learners		Environmental Scan	Environmental Scan	Development	Development	Development	Implementation	Implementation	Implementation	Implementation	Implementation	Implementation

Acknowledgements

The Digital Learning Advisory Committee was initiated by a collaborative initiative between the Ministry of Advanced Education and Skills Training and the post-secondary system to better understand and support the use of digital learning models in post-secondary education in British Columbia, both during and after the COVID-19 pandemic. The DLAC was mandated to produce recommendations for post-secondary institutions, the post-secondary system more broadly, and the Provincial Government regarding policies, practices, and initiatives that will enable digital learning models to support increased equity, access, and success in post-secondary education.

As the Digital Learning Advisory Committee (DLAC) members and secretariat, we would like to acknowledge with gratitude and respect all the traditional and unceded territories across all regions of British Columbia where DLAC's work took place. Particularly, we would like to acknowledge and thank the ɫə́kʷəŋən peoples on whose traditional territory the Ministry of Advanced Education and Skills Training stands - and from where most DLAC meetings were hosted - and the Songhees, Esquimalt Nations and WSÁNEĆ peoples whose historical relationships with the land continue to this day. We are honoured to live and work across these territories in British Columbia and are committed to working towards reconciliation, decolonization, and Indigenization.

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