Teaching with Technology

Teaching with Technology

KRISTI THOMAS

LETHBRIDGE

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Contents

Overview

Preamble

Welcome! This online course is brought to you by the University of Lethbridge Teaching Centre. The aim is to provide guidance and support for higher education educators like you in improving technology-enabled teaching skills.

Teaching and Learning

The course is designed to support educators at all levels of experience in using technology to support student learning.

Course Participation

By participating in this course, you gain the perspective of your online students.

How will this course be delivered?

The course will be delivered asynchronously though Pressbooks, an open source platform. This resource is openly published under the Creative Commons Attribution Noncommercial ShareAlike license.

Course Communication

Since this is an unfacilitated asynchronous course, communication will be initiated by you. For course support, you can reach out the the U of L Teaching Centre at teachingsupport@uleth.ca. Members of the Teaching Centre will be available to support you during regular office hours: Monday – Friday, 8:30 am – 4:30 pm. At times throughout the course, you will be prompted to engage with other active learners. We ask that you practice respectful communications at all times.

Technology

To support a positive learning experience, you will need internet access, a computer or a laptop.

Course Navigation

To familiarize yourself with Pressbooks navigation, watch this short Youtube video tutorial: How to Navigate Pressbooks (1:09 mins).

Benefits of Open Educational Resources (OER)

You can download the book/course in several different formats by clicking on **Download This Book** button on the top right of the cover page. Since this book comes with the open CC-BY-NC-SA license, you have the following five permissions for use, granted you don't change the license type:

1. **Retain** – the right to make, own, and control copies of the content (e.g., download, duplicate, store, and manage)
2. **Reuse** – the right to use the content in a wide range of ways (e.g., in a class, in a study group, on a website, in a video)
3. **Revise** – the right to adapt, adjust, modify, or alter the content itself (e.g., translate the content into another language)
4. **Remix** – the right to combine the original or revised content with other material to create something new (e.g., incorporate the content into a mashup)
5. **Redistribute** – the right to share copies of the original content, your revisions, or your remixes with others (e.g., give a copy of the content to a friend)

Accessibility Statement

I believe education needs to be available to everyone, which means supporting the creation of free, open, and accessible educational resources. I am actively committed to increasing the accessibility and usability of all content I create online.

Accessibility Features

The web version of this resource has been designed with accessibility in mind by incorporating the following features.

- It has been optimized for people who use screen-reader technology.
    - All content can be navigated using a keyboard.
    - Links, headings, tables are formatted to work with screen readers.
- Information is not conveyed by colour alone.
- Font may be resized from the tab on the top right of the screen.

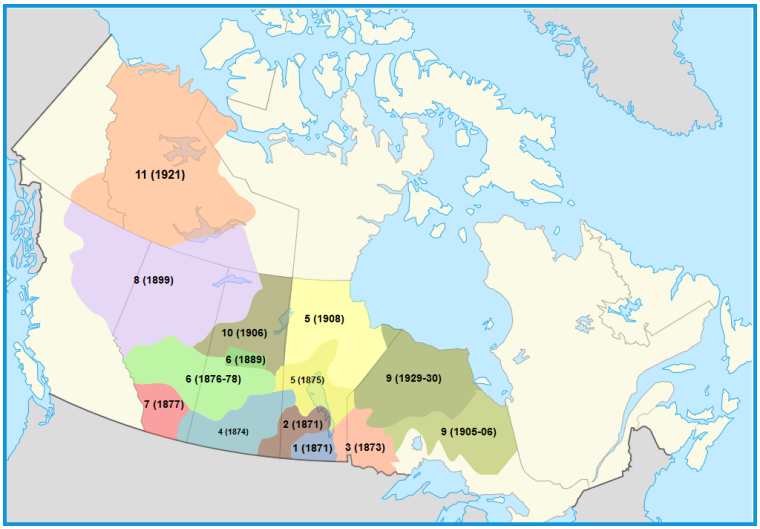
Other File Formats

In addition to the web version, this book is available in a number of file formats, including PDF, EPUB (for eReaders), MOBI (for Kindles), and various editable files. These formats can be retrieved from the "Download this book" drop-down menu on the book's home page.

Territorial Land Acknowledgement

Territorial Land Acknowledgement

This online course will be facilitated from the grounds of the traditional Blackfoot (Niitsitapi) Treaty 7 Confederacy territory, on which the University of Lethbridge, our Iniskim, is located. We honour the Blackfoot people and their traditional ways of knowing in caring for this land, as well as all Aboriginal peoples who have helped shape and continue to strengthen our University community.



Numbered-Treaties-Map by Yug and Themightyquill CC-BY-SA

The U of L Teaching Support Members actively seek decolonizing approaches to teaching, learning, and communication.

University of Lethbridge Blended/Online Learning Course

Are you an educator looking to enhance your knowledge of blended/online instruction focusing on technology use in the classroom? Well, you've come to the right place! This **self-paced** course consists of six professional **asynchronous** learning modules designed for higher education educators like you. In addition, this course will help you acquire a new set of technology-enabled learning skills that you can apply to your specific area of instruction.

This course offering is a modified version of Ontario Extend, an open educational resource. It is grounded in sound practices in online learning and thoroughly researched.

Module Design

Design features:

- Online
- Self-paced
- Unfacilitated
- Module-based

As advances in technology continue to impact teaching and learning, blended/online educators require new knowledge and skills. These competencies include learning new technologies, creating content, acquiring resources, facilitating learning experiences, and designing effective online assessments. Given this, each module helps build capacity in these areas and addresses one of the six skills educators need in today's digital world as outlined below:

- an understanding and appreciation of what research has to say about how people learn
- the ability to curate, develop, use, and share appropriate educational resources
- skill in discerning the possibilities—and limitations—of technology to support teaching and learning
- professional learning networks through collaborations with other disciplines
- a scholarly approach to teaching, and
- a willingness to experiment: to try, reflect, and learn from new approaches, pedagogies, and technologies to support learning (Bates, 2014).

Time Commitment

Understanding that as an educator, your time is valuable, before embarking on this learning journey, know that it will take a considerable time investment. Each module takes approximately 3-4+ hours to complete. The modules are sequential, with the knowledge and skills from one module supporting your exploration in the next. However, you can also explore a module on its own. Thus, **after completing the course** (six modules), **you will have built capacity in the areas mentioned above and enhanced your knowledge of specific technologies that support teaching and learning.** Furthermore, you will likely expand your peer associations and collaborations by participating in this professional development course.

Instructional Strategy

The course is grounded in the belief that digital fluency is a process

and that learning to teach effectively with technology requires an **experiential learning approach**. "Experiential learning is the process of learning through experience and is more specifically defined as "learning through reflection on doing" (Wikipedia, 2020). Therefore, as you move through each module, you'll be invited to learn by doing and reflect at times on the process.

The resources are intended to be a starting point, an activity-oriented set of challenges to stimulate further thought and collaboration. We encourage you to explore the content, consider the resources, experience the activities, and reflect on your practice. If you choose to engage in the course activities, you'll find you gain a richer experience.

Pressbooks Layout

The layout of this Pressbooks instance is as follows: (1) the **first** page is the introduction to this resource (2) the **second** page outlines the accessibility statement (3) the **third** page contains a **glossary** of relevant pedagogical and online learning definitions (4) the **fourth** page provides a common understanding of **blended and online learning** (5) the **fifth** page is the start of the first module in the course. Finally, a **resource** page lists additional resources to support faculty/instructors in designing and developing blended/online course(s) at the end of the course.

All of these resources are freely available through a Creative Commons license for adoption and customization.

Online Learning Support

If you have questions as you move through the modules, you can contact: teachingcentre@uleth.ca, and you'll receive a response

within 24 hrs. Our hours of operation are: Monday – Friday, 8:30 am – 4:30 pm.

Have fun, and don't forget to reach out if you need to.

Glossary

1. **Authentic Assessment**
2. **Blended Learning**
3. **Bloom's Taxonomy**
4. **Collaborative Technologies**
5. **Communities of Practice (community building)**
6. **Constructive Alignment**
7. **Digital Citizenship**
8. **Flexible Learning**
9. **Flipped Learning**
10. **Formative Assessment**
11. **Instructor Presence**
12. **Learning Management System (LMS)**
13. **Metacognition**
14. **Motivation**
15. **Mind mapping**
16. **Online Learning**
17. **Open Educational Resources (OER)**
18. **Scaffolding**
19. **Social presence**
20. **Summative Assessments**
21. **Technology-enhanced learning/Technology-mediated learning**
22. **Universal Design for Learning (UDL)**

Blended Learning vs. Online Learning

Blended Learning

To learn more about how and why blended learning works, watch this video (2:09 mins) with University of Lethbridge professors discussing blended learning.

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://openeducationalberta.ca/blend/?p=253#oembed-1

What is Blended Learning?

In its simplest form, blended learning is the thoughtful combination of face-to-face and online learning experiences (Garrison & Vaughan, 2008). Blended learning is based on social constructivist learning theory where students individually engage in critical reflection to make sense of their experiences and collaboratively construct knowledge through sustained critical dialogue (Swan, Garrison, & Richardson, 2009). The distinct challenge is determining the right balance of face to face and online activities (University of Ottawa, Teaching and Learning Support Services, n.d.).

High-quality blended learning is personalized and mastery-based; it is embedded with high expectations and encourages student ownership (Khan Academy, 2019).

"Designing, developing and implementing a blended course is an iterative process where evaluation (self-reflection, formal and information feedback from stakeholders, etc.) continually drives the redesign and redevelopment of course components for subsequent implementations" (University of Alberta (U of A), Centre for Teaching and Learning, 2019, n.p.)

What Blended Learning Is Not!

"Blended learning is not simply adding an online component to a face-to-face course. Technology in a course should be used wisely – to facilitate student learning. Technology should not be used just to show off technology. Excellent opportunities exist for teachers to make learning interactive, dynamic, and fun when used properly. The technology aspect of a lesson should be like a good baseball umpire – it (like the umpire) is good if it (he) goes unnoticed" (U of A, Blended Learning Handbook, n.d.).

"Simply incorporating technology into a course does not necessarily improve interpersonal connections or student learning outcomes" (Community College Research Center (CCRC), Columbia University, p. 3).

Why Implement Online/Blended Learning Design?

"…An online course, or a course enhanced with online resources and communication tools, will add educational value to any face-to-face course by making resources available to learners and by providing opportunities to deepen learning through dialogue and sharing" (U of A, Blended Learning Handbook, n.d.).

What Does Blended Learning Look Like in the Classroom and Online?

In a **flipped class** students read texts, watch supplemental videos, or solve additional problems outside of class and then engage in active learning opportunities in the classroom related to the same topic and/or context, such as "discussions, simulations role-plays,

and problem solving activities" (U of A Centre for Teaching and Learning, What is Blended Learning?, 2019, n.p., & Flipped Learning Network, 2014).

In **web-enhanced courses**, students attend the face to face session of their course at the scheduled time and are then assigned additional online activities to complete at home. The rationale behind assigning additional online activities is to promote greater student engagement with course content. "Some examples of these activities might include watching videos, participating in online discussions, doing online quizzes, or completing online simulations and labs" (U of A Centre for Teaching and Learning, Blended Learning, 2019, n.p.).

"In **flexible labs**, standard scheduled labs are eliminated, and students may instead go to a learning commons area where they can receive support and guidance for their lab activities if they need it" (U of A Centre for Teaching and Learning, Blended Learning, 2019, n.p.).

Combined Modes involves "courses combining different types of blended learning. For example, students may attend a flipped classroom while also participating in flexible labs" (U of A Centre for Teaching and Learning, Blended Learning, 2019, n.p.).

Online Learning

What is online learning?

Online Learning is referred to by numerous names such as E-learning, Virtual Learning Environment (VLE), Mobile Learning, Massive Open Online Course (MOOC) and Blended Learning; it can take on many forms and be delivered through various platforms

(Educause, n.d.). Online learning by definition "is any form of learning conducted partly or wholly over the Internet" (Bates, 2015, n.p.). For a mutual understanding of what Online Learning is here at the U of L, it a course that is delivered completely online. Therefore, students can learn at any time and from anywhere.

How does it differ from blended learning?

Online Learning is delivered fully online while **blended learning** is delivered through a combination of face-to-face and online components.

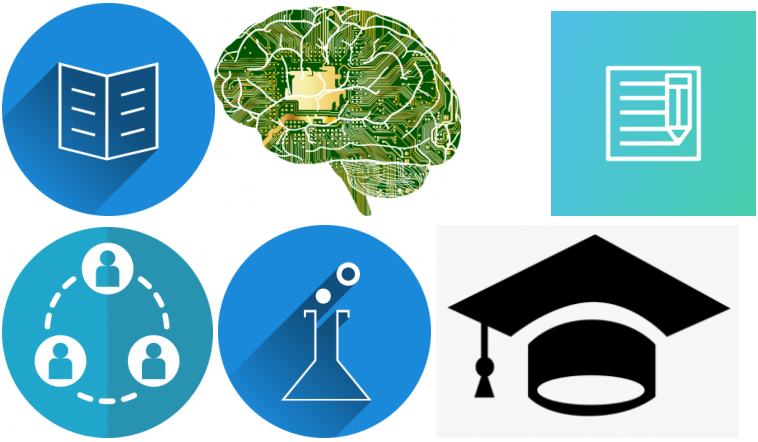
Blended or Online?

Depending on how you choose to deliver your academic course, the resources, guidelines and templates (resource page) here within will help you along the way.

PART I

MODULE INTRODUCTION

Introduction



The following modules are primarily based on Susan Ambrose and colleagues, How Learning Works: Seven Research-Based Principles for Smart Teaching (2010). Jossey-Bass: San Francisco

The seven principles are:

- Students' **prior knowledge** can help or hinder learning.
- How students **organize knowledge** influences how they learn and apply what they know.
- Students' **motivation** determines, directs, and sustains what they do to learn.

- To develop **mastery,** students must acquire component skills, practice integrating them, and know when to apply what they have learned.
- Goal-directed **practice** coupled with targeted **feedback** enhances the quality of students' learning.
- Students' current level of **development** interacts with the social, emotional, and intellectual **climate** of the course to impact learning.
- To become **self-directed learners,** students must learn to monitor and adjust their approaches to learning.

You'll start with the module **Teaching for Learning** which addresses ways in which you the instructor learns ways to organize knowledge, motivate learners, address threshold concepts, provide feedback, structure the learning environment and encourage metacognition. The second module **Instructor as Technologist** is designed to build digital literacy skills with a focus on how you can integrate technology into your teaching. The third module **Instructor as Content Creator** explores ways to curate from your learners' perspective to create engaging, interactive, and open course materials. The fourth module **Instructor as Collaborator** explores tools for online collaborations. The fifth module **Instructor as Experimenter** discusses how you can experiment with different delivery modes and pedagogical approaches. The six module **Instructor as Scholar** examines how you can use your classroom, your courses and/or your professional area of practice as a research lab to explore how you might improve your teaching practice and positively affect learner outcomes and their satisfaction with the overall learning experience.

This course is asynchronous. The modules are self-paced and are designed to build on one another, so it is advised that you move through the modules in the order they are presented. If you have questions as you move through the modules, you can contact: teachingcentre@uleth.ca and you'll receive a response within 24 hrs.

Teaching for Learning

Teaching for Learning

Content Menu:

Why else do educators teach but for learning? Yet, there is often a disconnect between conventional, accepted teaching practices and research evidence about what enables learning. In this module,

you will explore how you can ensure learning environments are **effective**, **accessible**, **intersectional**, and **equitable**. As you extend your knowledge, you will consider strategies for designing significant learning experiences that are grounded in and informed by research principles that foster student learning in specific contexts. This module addresses the ways in which instructors can support their students in the ways that they **organize knowledge**, **motivate learners**, **address threshold concepts**, **provide feedback**, **structure the learning environment** and **encourage metacognition** The activity in the module is designed to help you put theory into practice.

Learning Objectives

Outcomes

You will:

- gain a deeper understanding of the complexity of designing an online learning environment
- build your knowledgebase in online learning essentials

Objectives

You should be able to:

- Examine teaching and learning strategies that foster student learning in specific contexts
- Identify essential elements pertinent to the design and development of online learning environments

Time Commitment: This module will take about 3-4

hours to complete depending on your level of engagement.

Organize Knowledge

The way you present information and how you subsequently categorize new knowledge can make dramatic differences in your students' learning. You can help learners to make sense of new information by being explicit about how you suggest information fits with prior knowledge (Extend, ecampus Ontario, n.d.). **Universal Design for Learning (UDL)** is useful for organizing information. UDL acknowledges that there is great variation in how individuals learn. This is why it's recommended that:

- Learning should be designed to be accessible to everyone
- Information should be conveyed in a variety of ways, known as "multiple means of representation." For example, instead of using just a wall of text, consider adding some visual elements. If you do add an image, you should explain it using the description tag available online. Sometimes a video is the best way to explain something, but if you use video, be sure to always include transcripts and captioning.

Figure 1

Universal Design for Learning (UDL)

An interactive H5P element has been excluded from this version of the text. You can view it online here: https://openeducationalberta.ca/blend/?p=297#h5p-2

Scaffolding

When designing a learning environment online, "it's helpful to build in structures that reassure students that they are on track" (Darby & Lang, 2019, p. 145). Try **scaffolding** assignments and releasing content incrementally and strategically. How? Break down your large assignments into manageable chunks. Help pace the work and provide meaningful feedback along the way. Provide a checklist or an overview of an entire process (Darby & Lang, 2019). Darby and Lang (2019) suggest that you think carefully about what small and achievable tasks you can create for your students. What activities are likely to lead students to successfully completing them? (p. 146).

Exercises

Activity #1

Purpose of Task: The purpose of this task is to create a visual concept map of your course syllabus using **MindMup** or another visual organizer tool.

Task: Create a concept map of your course syllabus.

Technology: MindMup is a free mapping tool designed to make organizing ideas more effective. Note: You can create a free map without signing up.

Example MindMup: Visit two examples. 1 **here** or 2 **here**

Allow learners time to process

If you want your students to succeed it is ideal to model successful behaviours that have been shown to be beneficial to learning. It is well known that students who take the time to review their notes do much better than students who do not. With that in mind, use the last 10 minutes of your lecture time to allow students to process what was just covered. Doing so has two main benefits: it encourages you to think about the main learning you hope to cover during your lecture, and it allows students to immediately retrieve, use, discuss, and question what they have just learned.

You can follow this pattern to organize the 10-minute processing time, allowing about two minutes for each step:

- Ask your students what they think would be a good exam question based on the lecture they just heard.
- Ask your students to flip their page over and draw a picture that represents a key idea.

- Have your students turn to a neighbour and share their **Cornell notes**.
- Ask them to compare their proposed exam questions and drawings. Can they answer each other's questions? Do the drawings make sense to each other?
- Finally, and possibly most importantly, ask the students what questions remain.

You will find that structuring the end of your lecture in this way is more effective than simply asking the students, "Do you have any questions?" Students often interpret that question as a signal that it's time to pack up their binders and backpacks. In contrast, the summarizing time and activities makes the students' thinking visible and provides an immediate opportunity for students to confront any misconceptions (Extend, ecampus Ontario, n.d., n.p.).

Motivation as Driver

What drives you to do something? What drives learners? Often, we as educators expect our learners to share our enthusiasm for a topic and they just don't seem to muster the same level of excitement. Sometimes they don't even show up. Motivation is a complex topic that has been studied in many contexts and has many variables. However, there are a few things you can do to make stronger connections for students to motivate them to learn (Extend, ecampus Ontario, n.d.).

Intrinsic motivation – "refers to engagement in behaviour that is inherently satisfying or enjoyable" (Legault, 2016, n.p.).

Extrinsic motivation – "refers to performance of behaviour that is fundamentally contingent upon the attainment of an outcome that is separable from the action itself" (Legault, 2016, n.p.).

Motivation can determine, direct, and sustain what students do to learn. Consider the acronym WIIFM (what's in it for me?). You can use WIIFM as a helpful lens to consider your students. After you have ascertained their prior knowledge, you are better able to frame new learning in the context of their experiences and past learning. Always consider why your learners would be interested in

learning something. What is the relevance for them? How will it connect to future activities in this class or beyond? This may mean shifting your understanding of why students are enrolled in your course. They might not be there to learn for learning's sake, but to further their employability trajectory. Thus, it is important to be mindful of the different motivations for learning and attempt to find creative ways to make learning meaningful for every student (Extend, ecampus Ontario, n.d.). "[A learning] environment optimizes motivation and learning when it is accessible, secure, positive, personalized and empowering" (Yilmaz, Sahin, & Turgut, 2017, p. 112).

Mastery

One of the most difficult aspects of deconstructing the skills and concepts associated with achieving mastery occurs when dealing with 'threshold concepts'. These are often essential concepts in the discipline that must be understood in order to achieve mastery but are extremely challenging because once you fully understand them it is almost impossible to conceive of the topic without them. This is often described as an 'expert blind spot'. If you have an expert blind spot, it's difficult to break down the concept into its component parts because your thinking has been irrevocably transformed. It's our role as educators to try and remember what it's like to be a novice learner (Extend, ecampus Ontario, n.d.). Read a brief summary on **Threshold Concepts** or visit **Threshold Concepts and Transformative Learning** to gain a more in-depth explanation. To dive deeper in supporting mastery in the classroom visit: **Mastery Learning Objectives and Mastery Thresholds in the Classroom** or **Lessons of Mastery.**

Figure 2
Expert Blind Spot

An interactive H5P element has been excluded from this version of the text. You can view it online here: https://openeducationalberta.ca/blend/?p=297#h5p-3

Feedback and Practice

The principle of goal-directed practice and feedback refers to students needing numerous opportunities to work toward the goals that have been set and to receive explicit feedback. **Formative feedback** is most effective when it is provided at the right time for the learner. It can be immensely beneficial to you as a teacher in determining if your learners are on track. Formative assessment is even more important for your learners to discover for themselves how well they are doing and how they can improve in particular areas (Extend, ecampus Ontario, n.d.). For example, as students recognize gaps in their learning, learning tasks become more defined for the learner, and he/she becomes self-motivated rather than motivated by an external factor (Simon, 2019). Thus, formative feedback directly affects student motivation. Moreover, "formative assessment can help make the learning more individualized, as there are no two learners that are completely similar" (Simon, 2019,

p. 14). Extend, ecampus Ontario (n.d.) proposes the following strategies for implementing formative assessments.

In-class strategies:

- When the goal is acquisition of factual knowledge, chunk your assessments into smaller, more frequent quizzes to allow students the opportunity of experiencing test-taking in a setting with lower stakes than the typical midterm exam.
- When creating written assignments, consider designing the assessment to include draft revisions. This could be done by frequent writing activities in discussion board forums, creating an annotated bibliography, using mind maps, or asking for weekly reflections (n.p.).

Yee (2019) offers additional ways of formatively assessing learners.

- Directed Paraphrasing – Ask students to paraphrase part of or the entire lesson for a specific audience (and a specific purpose).
- Teacher-Designed Feedback Forms – instructors create evaluation forms tailored for their needs and their classes. These are useful midway through the term. For example, use the "one-minute paper." Ask your students to write on an index card (or the equivalent online document) what their most significant learning was for a lesson, module, or even a lecture.

Deliberate instruction is the act of always considering your desired outcome and intended learning for your students, and then working backwards in your lesson planning so that students can successfully achieve that goal (Extend, ecampus Ontario, n.d.).

Climate of the Course

The social, emotional, and intellectual climate of the course and the

classroom has an impact on learning. You can promote a positive climate in your classroom by:

- Providing opportunities for small-group learning and interaction
- Creating a classroom charter
- Listening carefully
- Offering opportunities to be heard
- Providing an environment that makes uncertainty safe
- Examining your assumptions
- Being respectful and inclusive
- Considering cognitive, psychomotor, and affective domains
- Being an authentic and genuine teacher
- Co-designing learning goals and classroom expectations

These factors that promote a healthy classroom climate will vary depending on the people involved. It is always best to establish ground rules for your class right from the outset so that the classroom climate standards are co-constructed and meaningful to the group as a whole.

Why build community?

Building community is another important aspect of online learning that contributes to classroom climate. In fact, research suggests it is one of the key drivers in student motivation. This is because a community is a place that fosters inclusion; it is a place where people build relationships by bonding over similar interests or purpose (Byrne, 2018). Research suggests higher levels of belonging are known to lead to increases in academic achievement and motivation (Borkoski, 2019). By building a community online, an instructor builds in student support. The question you should ask is "How can I better support my students?" You can start by finding out who your students are, what they need to be successful, and how your institutional mission aligns with your practices.

How to build community

- Let students get to know you (audio, video)
- Let students get to know each other
- Allow students to work in small groups
- Use real-time synchronous delivery for student engagement activities

Metacognition

"Metacognition is, put simply, thinking about one's thinking. More precisely, it refers to the processes used to plan, monitor, and assess one's understanding and performance. Metacognition includes a critical awareness of a) one's thinking and learning and b) oneself as a thinker and learner" (Vanderbilt University, Center for Teaching, 2021). Students need to assess the demands of the task, evaluate their own knowledge and skills, plan their progress, monitor their progress, and adjust their strategies as needed. Self-directed learning and actively taking the time to reflect on one's own learning is described as **metacognition.** Developing metacognitive skills through deliberate practice and embedded checkpoints fosters intellectual habits that are valuable across disciplines. These checkpoints should occur at the beginning of the learning where students are encouraged to practice task assessment and planning. Metacognition should continue through the evaluation of the outcomes and adjust approaches accordingly. A very important factor for developing this flexible mindset is rooted in students' self-efficacy. It is extremely useful for instructors to stress the importance of developmental approaches so that they can fully appreciate that intelligence is not fixed (Extend, ecampus Ontario, n.d.).

Module Checklist
I have completed the following:
• Created a concept map for my course syllabus using MindMup or another visual tool organizer.
• Check in: Reach out to the Teaching Centre if I have questions, concerns or ideas.

Instructor as Technologist

Instructor of Technologist

Content Menu:

Educators often find themselves standing at the crossroads between innovative use of technology as trendy or as an evidence-based practice. This module will guide you as you select, use, and integrate technologies in a way that supports, facilitates, and enriches learning experiences. This module discusses the **instructor as technologist** and is designed to build digital literacy skills with a focus on how instructors can integrate technology into their teaching using design thinking and the SECTIONS model by Tony Bates.

Learning Objectives

Outcome

You will identify and use pedagogically sound technologies to address specific teaching or learning challenges.

Objectives

You should be able to:

- Explore ways in which technology integration can address teaching and learning challenges.
- Use the SECTIONS framework to choose among technology tools for teaching and learning.

Time Commitment: This module will take about 3-4 hours to complete depending on your level of engagement.

Digital Literacies for Teaching

What is digital literacy?

"**Digital literacy** refers to an individual's ability to find, evaluate, and compose clear information through writing and other media on various digital platforms. Digital literacy is evaluated by an individual's grammar, composition, typing skills and ability to produce text, images, audio and designs using technology" (Wikipedia, 2021). According to Extend, ecampus Ontario (n.d.), **digital literacies** are complex and nuanced, and there are myriad of ones to consider. Using technology tools effectively to address specific learning challenges is just one aspect of digital literacies for teaching. These literacies encompass the abilities to locate, use, summarize, evaluate, create, and communicate information while using digital technologies and web-based platforms. They also include the expertise to engage safely, responsibly and ethically in online communities and networks. Developing digital literacies is an ongoing process. This module is just a starting point.

Technology in Education

Listen to Adarsh Sudindra, Founder and CEO of EnhanzED Education, an EdTech Start Up based out of Mysuru, India as he discusses the changing landscape of knowledge learning and retention in this digital age in this TEDx Talks video (13:05 mins).

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://openeducationalberta.ca/blend/?p=301#oembed-1

Highlights from the video:

"[Learning] should be an experience, an experience that is rich interactive engaging and most importantly fun…"

"Technology can bring in the flexibility needed to carve out personalized learning paths for each and every student."

Identify a challenge

Hopefully, you're now thinking about creating a rich learning experience for your students. Start by identifying a teaching or learning challenge. Think about a technology tool that could help overcome this challenge. **But I have no idea of what technology tool to use to mitigate this problem!** No problem, browse the list of technologies and their purposes from the lists below.

Choose a Technology Tool

Next comes the work of selecting a technology to help you build a 'creation' that will help you address the challenges your learners are having in understanding a concept, or any other challenge you have identified. You can start by looking at the list of common tools and approaches in both the **'How To's section'** which walks users through a do it yourself (DIY) approach to common tool integration, as well as a **Great Tool List**, which links to large collections of

categorized (and in some cases evaluated) tools and technologies. Take some time to check them out and consider which could fulfill the requirements you have identified in your teacher or learner challenge. Below is a list of tools U of L supports.

Video tools Flipgrid Lightboard Teams Youtube YuJa Zoom	**Screen Capture and Screen sharing** YuJa	**Editing and annotating** Hypothesis
Polling tools Qualtrics ePoll Socrative Microsoft forms	**Collaborative learning tools** Google.docs Microsoft Sway Wikispaces	**Grading tools** Crowdmark
Presentation sharing H5P Microsoft PowerPoint Microsoft Sway		

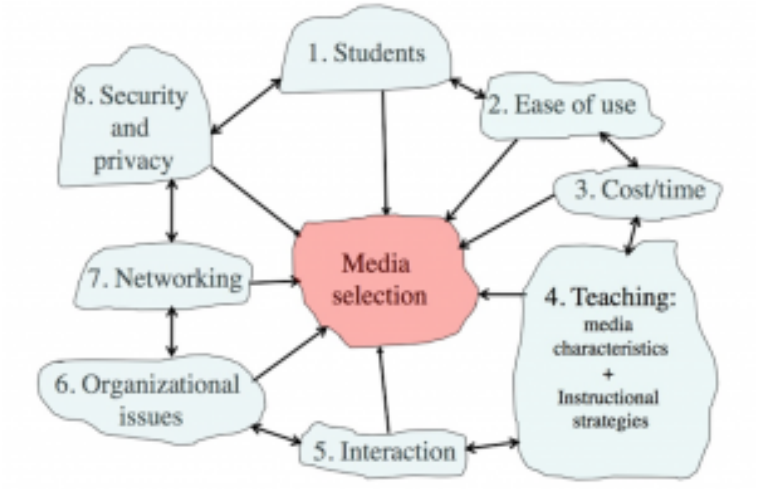
Use the SECTIONS Model to Select and Evaluate a Tool

Now that you have selected the technology that you will integrate into your teaching and learning, it is good practice to assess its fit beyond your learner challenge definition, to include other factors around support requirements. A helpful framework to guide this assessment is the **SECTIONS model**, developed by Tony Bates. It is one of many frameworks that can help you make effective decisions about the choice and use of technology (and media) for teaching and learning. Watch this video (7:51 mins) presented by Team 5 at the University of British Columbia to learn more about how to use the SECTIONS model.

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://openeducationalberta.ca/blend/?p=301#oembed-2

Review the following to learn more about the SECTIONS model:

- **Brief explanation of SECTIONS Model** by The University of British Columbia
- **Summary of SECTIONS Model** by The University of British Columbia
- **Chapter 8: Choosing and using media in education: the SECTIONS model**



Dig into the Tool

If you decide to take the leap and start working with the tool, keep in mind that this requires dedicated time. If it's your first time using the tool, go through any tutorials provided, or search for some online – undoubtedly there are others that you can learn from. Also reassure yourself that this tool does not need to solve the learner challenge entirely – perhaps it is just one aspect of the challenge that you've uncovered. Start small.

Connect to Your Curriculum

Now think about how you will integrate technology into your curriculum. Just as an architect would envision users of a new building walking through it, you need to craft an implementation plan as to how your learners will progress through your tech creation as an activity. You might want to storyboard the process, or create a checklist. Either way, map and clearly sequence the instructions you will give your learners. Make sure to indicate how all the different elements fit together and link the activity to your learning outcomes. If you get to this point and cannot connect your technology creation/activity back to your course learning outcomes, it is definitely cause for attention (Extend, ecampus Ontario, n.d.).

Module Checklist
I have completed the following:
• Identified a teaching or learning challenge.
• Reviewed the technology tool lists.
• Used the SECTIONS model to select and evaluate a tool.
• Created an activity that will help resolve the initial teaching or learning challenge.
• Check in: Reach out to the Teaching Centre if I have questions, concerns or ideas.

Instructor as Content Curator

Instructor as Content Curator

Content Menu:

This module explores ways to curate from your learners' perspective to create engaging, interactive, and open course materials. It discusses Creative Commons and Copyright and

explores strategies to search for, find, and evaluate Open Education Resources (OER) (Extend, ecampus Ontario, n.d.).

Learning Objectives

Outcome

You will examine the process, value and impact of collecting and combining existing resources when creating content (Extend, ecampus Ontario, n.d.).

Objectives

You should be able to:

- Discuss key aspects of Creative Commons
- Develop or adopt a system for evaluating and sharing learning resources

Time Commitment: This module will take about 3-4 hours to complete depending on your level of engagement.

As a content curator, your role is to provide a customized, vetted selection of the best and most relevant resources on a very specific topic (Extend, ecampus Ontario, n.d.). Beth Kanter, a social media author and blogger, provides this definition of curation in her blog Content Curation Primer: "Content curation is the process of sorting through the vast amounts of content on the web and presenting it in a meaningful and organized way around a specific theme. The work involves sifting, sorting, arranging, and publishing information. A content curator cherry picks the best content that is important and relevant to share with their community. It isn't

unlike what a museum curator does to produce an exhibition: They identify the theme, they provide the context, they decide which paintings to hang on the wall, how they should be annotated, and how they should be displayed for the public".

What is a Content Curator?

A video (1:35 mins) explanation – What is a Content Curator? (Centerline Digital, 2015).

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Comparing Creative Commons with Copyright

Copyright protects the exclusive right of the originator of a work to copy or license the work. In contrast, Creative Commons provides an alternative to the restrictive nature of copyright, and provides learners with a more cost-effective option to access materials. Creative Commons (CC)... gives creators a choice in how they allow others to use their creations, whether text, pictures, songs, or other forms.

Creative Commons and other commitments to openness are gaining momentum in many environments: open access, open data, open source, open pedagogy, etc. In this module we concentrate on Creative Commons and its support of open educational resources, more commonly known as OER. We explore how high-quality OER,

with their ability to be reused and often remixed, can replace high-cost commercial resources in your courses. Beyond saving your learners money, these OER can boost learning in your courses. With careful curation, you can design and develop courses that include content tailored to your specific learners' need, modelling your preferred approaches and strategies" (Extend, ecampus Ontario, n.d., n.p.).

The **Wanna Work Together?** (Creative Commons, 2009) video (3:01 mins) explains some of the differences between Copyright and Creative Commons.

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More information on Creative Commons

- Video (2:01 mins) explanation – **Using Creative Commons** (GCFLearnFree.org, 2018).

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Adopting a Search System

When searching for current, high-quality and reliable resources

or information on the Internet it can often be time-consuming and confusing given the myriad of search results that populate. Fortunately, there are ways to make your search more efficient. Extend, ecampus Ontario (n.d.) offers a brief on how to use limiters or Boolean Operators.

Figure 3

Confused Search

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"Boolean operators are the words "AND," "OR," and "NOT." They are small words with a lot of search power! For example, suppose you are attempting a basic search to find information on learner motivation at postsecondary institutions. You identify "colleges" and "universities" as your basic search terms. If you search "colleges AND universities," your results must include both terms. The starred (overlapping) area in the graphic below depicts the results."

Figure 4

Boolean Search 1

An interactive H5P element has been excluded from this version of the text. You can view it online here: https://openeducationalberta.ca/blend/?p=299#h5p-7

If you search “colleges OR universities,” your results change, with the stars now in both overlapping and separate areas.

Figure 5

Boolean Search 2

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And if you choose to narrow your search to "colleges NOT universities," the results are different again.

Figure 6

Boolean Search 3

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- Using “AND” narrows your results as both terms must be present; there is more precision in your search.
- Using “OR” expands your results as only one term must be present; you have less precision, but you are also less likely to miss an important resource.
- Using “NOT” excludes a term completely; you will want to use this with care as you might miss an important resource.

Exercises

Activity #1

Purpose of Task: The purpose of this task is to expose you to curation resources and to encourage you to explore OER in all of its many forms.

Task: Examine Creative Commons and build your curation skills by searching for OER that you can re-use or use with adaptions for your course.

Depending on what you choose to search for, here is a **link** to a list of repositories. Alternatively, you can browse the openly licensed website provided below.

- **Creative Commons Search**

Step 2. Read "Assessing OER" below and use the CRAAP test to evaluate curated OER.

Assessing OER: Spotlight on Currency, Relevance, Authority, Accuracy & Purpose (C.R.A.A.P)

Not all Open Education Resources (OER) are created equal. Assessment is still key to your decision to adopt an OER, just as it is with publisher or Internet content. There are several rubrics

and checklists to assist your assessment of resources, OER or otherwise. BC Campus has a **set of criteria to use when reviewing and open textbooks**. The Commonwealth of Learning has **guidelines for OERs in Higher Education**. Howard Rheinglod's **Compendium of CRAP detection resources** is a useful reference guide as you explore resources on the web. It lists a wide range of tools to assess the quality of online information.

One widely used way to assess online resources is the C.R.A.A.P. test. First developed by librarians at California State University—Chico, institutions across the globe have adopted it as a framework for evaluating sources. CRAAP refers to Currency, Relevance, Authority, Accuracy and Purpose.

The C.R.A.A.P. Test

Currency = the timeliness of the information

When was the OER published or posted? Has the OER been revised or updated?

- Does your topic require current information?
- Are the links functional?

Relevance = the importance of the information for your needs

Does the OER relate to your needs?

- Who is the intended audience?
- Is the information in the OER at an appropriate level for your learners?

Authority = the source of the information

- Who is the creator?
- What are the creator's credentials or organizational affiliations?

- Are the creators/collaborators contributors qualified to write on the topic?

Accuracy = the reliability and truthfulness of the information

- Is the information supported by evidence?
- Has the OER been reviewed or refereed?
- Does the language or tone seem unbiased and free of emotion?
- Are there spelling, grammar, or typographical errors?

Purpose = the reason the information exists

What is the purpose of the information? Is it to inform, teach, sell, entertain or persuade?

- Is the information fact, opinion, or propaganda?
- Are there political, ideological, cultural, religious, institutional, or personal biases?

Take a look at this video (2:16 mins) about **"Evaluating Sources"** (Western University, 2012), which provides an overview of the CRAAP test.

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The goal of this module is to extend your awareness and appreciation of content curation. We hope that you also recognize it as a viable and vital option for finding resources as you design, develop and revise courses. Armed with knowledge to source and assess open education resources, you now have the tools to take

more control over customizing your courses while saving your learners money by using OER.

Module Checklist
I have completed the following:
• Explored repositories to curate content and curated one (or more) OER to support learners' understanding of an element or concept for a course.
• Used the CRAAP test to evaluate curated OER and reflected on how to use OER in discipline specific ways.
• Check in: Reach out the the Teaching Centre if I have questions, concerns, or ideas.

Instructor as Collaborator

Instructor as Collaborator

Content Menu:

Using technology tools to build intentional connections with others, to pose and solve problems collaboratively, and to

strengthen independent thought is key to building digital capacity for teaching and learning. This module explores tools for online collaborations. It offers ways to create and extend professional and personal learning networks (PLNs) through collaborations within, across, and between disciplines (Extend, ecampus Ontario, n.d.).

Learning Objectives

Outcome

You will build **Professional Learning Networks** (PLNs) to collaborate and share knowledge with colleagues within, across and between disciplines (Extend, ecampus Ontario, n.d.).

Objectives

You should be able to:

- Explore ways to build or augment PLNs
- Identify strategies and tools to extend professional connections beyond your institution or peers

Time Commitment: This module will take about 3-4 hours to complete depending on your level of engagement.

What is a Personal Learning Network (PLN)?

Defining, Building and Engaging

Marc-Andre Lalande offers a clear understanding of PLNs in his video (1:40 mins) **What is a PLN?** and "distinguishes between a

professional learning network and one that is more personally relevant and driven by your own needs and aspirations" (Extend, ecampus Ontario, n.d., n.p.).

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The video (9:20 mins) **Understanding and Creating Professional Learning Networks** presents three views on the research associated with PLNs, including research by Dr. George Veletsianos, Canada Research Chair at Royal Roads University in Victoria, BC.

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PLNs are personal, or more accurately, personalized. They might be organized around personal or professional learning interests, but they are uniquely yours. For example, you may have a shared interest with someone else in a particular topic, perhaps basket-weaving techniques, but the intersecting zones of your PLNs would be different because your own network is based on connections that you form yourself and conversations that you have with others. *You* determine who is in your network and how you engage with them.

PLNs are also formed around the goal of *learning*. They're made up of nodes, or the people and organizations that you recognize

as being important to your learning, and the connections between them. Connections between the nodes in the network are built and strengthened through shared interests, conversations, and other interactions, like posting links to useful articles or offering insights from your own experience. You might communicate with your learning network through the same tools you use for primarily social purposes, but PLNs are, at their core, meant to promote your own growth, development, and understanding in an area that is meaningful to you. Personal learning networks do highlight the social nature of learning, though, revealing that the ways you interact with your network might blur the boundary between your social identity and your identity in academic or professional spheres (Extend, ecampus Ontario, n.d.).

Connectivism

The idea of a PLN, as presented here, emerges from the theory of **connectivism**. The foundational concept of connectivism is that your network provides the *context* for your learning, not necessarily the *content*. It's a teaching approach that recognizes the agency of learners in determining the direction of their own learning, but at the same time emphasizes that learning is not a solitary or individualistic pursuit, and that we learn as part of a community. PLNs with a connectivist context exemplify the thesis that **learning is a social and collaborative activity**. It is the process of your own learning through discussions and other kinds of interactions with community that creates strength in your PLN. Unique to connectivism—and the formulation of PLNs within it—is that it speaks specifically, inseparably about how these connections between learners take place in a digital space, and how they are fundamentally transformed by interactions with and through digital technologies.

Watch the video (3:15 mins) **Overview of Connectivism** (USC Blended Learning , 2014) with Dr. George Siemens, who is the Canadian higher education teacher and researcher who coined the term "connectivism." The short YouTube video presents an overview of connectivism and the insights that Siemens pursued in his research by reflecting on his own learning and how it was influenced and affected through the affordances of digital technologies and networks. Your work in this module will replicate some of the pathways Siemens explored.

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Explore: Why Collaborate?

In his book, ***Too Big to Know: Rethinking Knowledge Now That the Facts Aren't the Facts, Experts Are Everywhere, and the Smartest Person in the Room Is the Room***, David Weinberger proposes that "knowledge is becoming inextricable from—literally unthinkable without—the network that enables it". He goes on to say: *We used to know how to know. We got our answers from books or experts. We'd nail down the facts and move on. But in the Internet age, knowledge has moved onto networks. There's more knowledge than ever, of course, but it's different. Topics have no boundaries, and nobody agrees on anything. Yet this is the greatest time in history to be a knowledge seeker… if you know how.* Steven Johnson also

contributes to the discussion of the importance of collaboration in the video (4:07 mins) ***Where Good Ideas Come From*** (Riverhead Books, 2010) noting that networks are needed to germinate and spread ideas (Extend, ecampus Ontario, n.d.).

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Your own network of collaborators might be made up of dozens or even hundreds of people with different interests and areas of expertise. You probably engage with them through a variety of modalities: face-to-face conversations, texts, or over a multitude of social media outlets. Consider all of them as members of your PLN. While PLNs are not new, the platforms they are built on today have changed. Many teachers use social media to create their personalized, digital PLN. In these informal professional development networks, Twitter is often the platform of choice because of its immediacy in finding practical solutions, answering questions, and identifying resources related to teaching.

Ways to Collaborate

Here we focus on online opportunities to collaborate. The Internet diffuses connections and ideas more effectively than most of us could have imagined just a few years ago. In fact, the **earliest online communities** shed light on the promise of how collaborative online

spaces could become the locus of rich and vibrant experiences in learning together. You can create an online space that allows for this exchange within a teaching and learning context in one of two ways: through participating in digital communities for learning, or by building your own personal learning network. The former is a more formalized structured space, whereas the latter is more personal, built entirely by you. A good collaborative community may reflect the guiding principles found within a "community of practice," which has been defined as a group "of people who share a concern or a passion for something (domain) they do and learn how to do (practice) it better as they interact regularly" (Lave & Wenger, 1998). To better understand the role of communities of practice, read the post from Dr. Tony Bates: **The Role of Communities of Practice in a Digital Age**.

Communities of practice generally have three main characteristics:

- **Domain:** a shared knowledge and skill within a focused area.
- **Community:** individuals converging and learning together.
- **Practice:** sharing strategies, tools, resources and examples through a knowledge exchange" (n.p.).

Figure 7

Communities of Practice

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The aim is to broaden your network to include cross-disciplinary skills and insights, and the online world affords just that. You will find that you can often meet peers and potential collaborators through chance online meetings in discussion groups or by using social networking tools (Extend, ecampus Ontario, n.d.).

Exercises

Activity #1

Purpose of Activity: The purpose of this activity is to have you engage with others.

Task: Create a Twitter account and explore how to extend your Personal Learning Network (PLN) by engaging with others (*Optional).

Technology: Twitter. Twitter is an American microblogging and social networking service on which users post and interact with messages known as "tweets". Registered users can post, like and retweet tweets, but unregistered users can only read them (Wikipedia, 2020).

Tools for Collaboration

Social Media

- Twitter – Twitter is an American microblogging and social networking service on which users post and interact with messages known as "tweets." If you don't have a Twitter account, you're welcome to sign up for one here **https://twitter.com.** Spend some time exploring. If you aren't sure who you should follow as a Twitter user, ask your colleagues for suggestions. **Here are some guidelines** to get started" (Extend, ecampus Ontario, n.d., n.p.).

Reading

- Hypothes.is – is a collaborative annotation tool. “Collaborative annotation makes reading active, visible, and social, enabling students to engage with their texts, teachers, ideas, and each other in deeper, more meaningful ways” (Hypothes.is, n.d.).

Writing

- Google docs – Google docs is a collaborative word processing document that offers editing and styling tools to help you easily format text and paragraphs.

Questions to Consider When Building Your PLN

Mark McNeilly sheds some light on questions that may arise when thinking about starting your PLN. Read this article: **Ask These Questions About Your Professional Network Before It’s Too Late.**

Module Checklist
I have completed the following:
• Created a Twitter account and explored how to extend my Personal Learning Network (PLN) by engaging with others. *Optional
• Check in: Reach out the the Teaching Centre if I have questions, concerns, or ideas.

Instructor as Experimenter

Instructor as Experimenter

Content Menu:

As an instructor, engaging students often takes some experimenting. Now that you've assumed the role of learner, technologist, content curator, and collaborator, try playing the role of experimenter. This module discusses how instructors can

experiment with different delivery modes and pedagogical approaches. More specifically, this module presents you with a series of challenges that invite you to experiment—to be curious and creative as you explore, and to reflect on new approaches to designing learning experiences. Experimentation is key to extending our skills related to online and technology-enabled learning.

Learning Objectives

Outcome

Experiment with new technologies, approaches and strategies to better support your teaching style and student learning in the digital age.

Objectives

- Embrace experimentation in your teaching strategies
- Try new technology tools that enhance learning

Time Commitment: This module will take about 3-4 hours to complete depending on your level of engagement.

Experimenting in teaching and learning with different content delivery modes and pedagogical approaches can help to re-invigorate a love of teaching and spark further creativity and concept attainment in learning experiences for students. While the majority of teachers and administrators recognize that educational technology can accelerate student learning opportunities, a recent survey finds that 39 percent of school staff do not have training or "adequate learning opportunities" to adopt educational technology

solutions in the classroom. Thus, the experimenter module encourages you to freely experiment as a means of providing those "adequate learning opportunities" for the adoption of educational technology. Start exploring by choosing an **active learning** strategy below and seeing how you can incorporate accessibility and technology into an activity.

Active Learning Pedagogical Strategies

Queen's University Center for Teaching and Learning shares targeted strategies for **active learning**.

- Case-Based Learning
- Field-Based Learning
- Inquiry-Based Learning
- Lab-Based Learning
- Problem-Based Learning
- Experiential Learning

For a detailed list of active learning strategies visit: Focus on Active Learning: Active Learning Strategies (PDF, 655KB)

Pedagogical Resources for Accessibility

Notably, as you embrace the mindset of accessibility, it becomes clear that there are a myriad of sensitive topics that may need to be addressed in your classroom.

- Understanding Accessibility
- Accessible Education
- Universal Design for Learning Guidelines
- Web Accessibility in Higher Education (video 1.36 mins)

- We Need to Talk About Race in Higher Education (video 2:06 mins)
- Decolonising the Curriculum (video 10:59 mins)
- Racial Microaggressions: Comments That Sting (video 3:00 mins)

Educational Technology

Because educational technology continues to grow at an exponential rate, it is helpful to think of the purpose and/or theme of technology rather than a specific tool. For example, Guide to Blended Learning by Martha Cleveland-Innes and Dan Wilton suggests looking at educational technology in terms of these following themes:

- **learning management systems** (i.e., Moodle)
- **web conferencing** (i.e., Zoom)
- **digital textbooks** (i.e., non-printed textbooks)
- **blogs/wikis** – "A blog is an online [journal] that can be shared across the class or with the general public, allowing individual learners to write reflectively about their own learning and to receive feedback from their peers… Wikis are collaborative writing spaces constructed around interlinked webpages" (p. 41).
- **social bookmarking, mashups and digital storytelling – Social bookmarking** is the activity of collecting, tagging and sharing online resources such as articles, news reports or images. "**Mashups** extend the idea of social bookmarking to allow learners to compile, combine and remix online resources and data in more structured ways to produce new interpretations or meaning" (p. 42). **Digital storytelling** allows learners to combine a range of media — text, images, video, audio, maps and data — to craft a unified narrative.

- **simulations, serious games and virtual worlds;** and
- **e-portfolios** – "Electronic portfolios… are collections of writing, documents and other artefacts maintained individually by students to demonstrate their learning over a course or programme" (p. 43).

Explore the toolkits below and learn about how they might be used for course design, class activities, assessments and so on. The information found in all of these repositories will lend context for completing the experimenter activities below.

Source
eCampusOntario
University of Notre Dame – REMIX
Top Tools for Learning 2018
University of Western Ontario – eLearning Toolkit

Activity #1

Purpose of task: The purpose of this task is to encourage you to continue experimenting with different pedagogies and relevant technologies.

Tasks:

- **Step 1:** Complete **two** tasks from the list of **six.** To better appreciate the experience on mobile devices, at least one of your Experimenter activities should be done using a tablet or smartphone.
- **Step 2:** Once you've completed the **two** tasks. Write a brief reflection on what you learned in this module and post it here What I've Learned Reflection on Lino.

Task 1: Explore an online survey tool. Experiment by creating and conducting a five-question survey of your peers about ways to use technology-enabled activities. Please share a link to your survey results as a response to the Surveying Lino activity.

Technology: Online survey or audience response tools are powerful for capturing opinions and understanding your students or colleagues better.

Note: Users of the Google suite might try Google Forms,

which store data in a spreadsheet stored in your drive (and can be embedded in other sites). Other survey tools like Socrative, and Poll Anywhere are specially aimed at collecting audience feedback on mobile devices. See more survey tools listed in the Extend Toolkit.

Task 2: Create a video, that serves the bridge or hook purpose to welcome students to your course (think course trailer even), or your blog website, with one of the freely available tools highlighted in the Online Lecture Toolkit. A bridge or hook is an effective teaching approach to gain a learner's attention and build motivation. Post your your video to your course site and see how student engagement improves.

Technology: Yuja is a video capture tool.

Task 3: Have you ever taken a photo or created a graphic that you would like to use or found the perfect image on the Internet and wanted to use it? It is time for you to learn about the location and attribution of openly licensed images (OER Commons). For this activity, experiment by building or customizing an openly licensed graphic or other resource for a concept related to your discipline, and share it via OER Commons, the "public digital library of open educational resources." Use their Open Resource Builder to assemble and publish your OER. Why share here? It can be part of a global commons of Open Education Resources (worth exploring too).

Task 4: Field work is an immersive and experiential way to engage students in the learning process. However, when you cannot hold a class on the Athabasca Glacier to examine glacial retreat or transport 60 students to Paris, France to study the urban form and function of the city,

virtual tours provide a way to create that "in the field" experience. Experiment to create a field work inspired activity for one of your courses using one of the following virtual tour experiences:

- Google Streetview connects with Google's map service to show fully navigable views of map locations. This offers a means to observe anywhere on earth they have mapped. The Streetview Gallery provides examples of where you can go.
- MapCrunch uses Streetview to transport you to a random location in the world. This might work as a writing prompt or an exercise to explore the cultures where you land.
- Geoguesser provides random Streetview Images from around the world wrapped in a game format for identifying the location.
- Google Museum View uses the same technology to map streets to provide walk through tours of museums around the world.
- Google Map Treks takes to you inside the Taj Mahal, down inside the Grand Canyon, the Sambura National Refuge in Kenya, the Giza Pyramids in Egypt, and more.
- Google Earth lifts you from the streets to explore the entire globe. Explore any location in full 360 degree navigation.
- Google Earth Timelapse provides a way to explore satellite images of different locations over different periods of times.
- Google Tour Creator helps you create your own virtual reality tours.

Explore one or more of these virtual tours and find the web address to one specifically that you could build a lesson on the experience. In your response to the Virtual Field Trips activity on Lino describe how you could integrate the tour and what it might offer your students.

Task 5: Experiment by using padlet to create an immersive learning activity that you can test out with your students. Please share the link for your completed Padlet in a response to the Padlet, Lino activity.

Technology: Creating a Padlet is often described as building a living, breathing web page. As you have seen throughout this course, Padlet offers a virtual bulletin board for sharing words, web sites, audio, video, and creating connecting between items. Padlets can be set up to allow contributions without logging on or they can be made private.

See 30 Creative Ways to Use Padlet for Teachers and Students (BookWidgets blog) for specific types of activities educators might create there. These ideas include Brainstorming on a Topic, Online Student Portfolios, Mind Mapping, Book Discussions, Icebreakers, Geocaching, and more.

Task 6: Quizlet began as one learner's method to improve their learning by creating online vocabulary quizzes and has grown to be a platform for creating sets of practice exercises for any discipline. Use Quizlet to create one of the interaction types for your course. Please share a link to the sample study material you created as a response to the More Than Quizzes activity on Lino.

Technology: Quizlet Live is a platform for producing in class interactive activities. Interaction types include

content review, flashcards, matching games, spelling and more learning tools.

A good starting point is exploring existing content created by other educators, organized by subject. Then, when you have an idea of what kind of activities you want to experiment with, create a free account and then make you first Quizlet set.

Module Checklist
I have completed the following:
• Reviewed resources on various pedagogical strategies and how to make my pedagogy more accessible.
• Reviewed available resources on teaching and learning technology tools.
• Completed two of the six activities designed to help me experiment with technology.
• Shared a brief reflection on what I learned in this module.
• Check in: Reach out to the Teaching Centre if I have questions, concerns or ideas.

1. Instructor as Scholar

Instructor as Scholar

Content Menu:

This module examines how you can use your classroom, your courses and/or your professional area of practice as a research lab to explore how you might improve your teaching practice and positively affect learner outcomes and their satisfaction with the overall learning experience. It invites you to consider research about teaching and learning within your discipline and provides a process to implement a research plan. This kind of action research is often called the "scholarship of teaching and learning" (SoTL), and it involves an awareness and appreciation of effective, research-based, discipline-appropriate pedagogical approaches for examining your own practice.

Learning Objectives

Outcome

Create an action plan to examine key questions about improving learning outcomes in a specific discipline area using your own professional practice, informed by the research of others, to build your SoTL plan.

Objectives

- Explore key characteristics of SoTL.
- Identify instructional practices or teaching strategies from your own discipline that you would like to explore or test within your own courses.
- Identify a range of research strategies that suit your discipline.
- Identify a framework for analysis of your research.
- Select a strategy for sharing your research for

others to build on.

Time Commitment: This module will take about 5+ hours to complete depending on your level of engagement.

The Scholarship of Teaching and Learning (SoTL)

Everybody involved in teaching has questions about the success of their practice. We deal with some of the questions informally all the time. In other cases, we seek to formalize our enquiry by doing research, and that is what SoTL is about. The purpose of SoTL is to improve learning by implementing optimized teaching practices based on research and evidence to support changes in practice. To learn more about SoTL, watch this Illuminate, Research on Teaching and learning video (10:48 mins) from the University of Lethbridge. This video features Dr. Jan Newberry and Dr. Shelly Wismath defining SoTL in the context of their own professional practice.

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Scholarly Teaching

The Scholarly Teacher applies evidence-based practice to enrich student learning (https://www.scholarlyteacher.com/about). When teaching and learning are grounded in the scholarship of teaching and learning we treat our classrooms and programs as a source of interesting questions about learning; find ways to explore and shed light on these questions; use this evidence to design and refine new activities, assignments, and assessments; and share what we have found with colleagues who can comment, critique, and build on new insights (Huber and Hutchings, 2005). Scholarly Teaching studies "what has been done, look for opportunities to use empirical work completed by others, and then make adjustments according to current demands." Important to this process is considering what existing empirical work is exclusionary, one dimensional, and dated before building your pedagogy upon it. Consider researching pedagogical practices, attaining resources, and collecting empirical data that are decolonial, intersectional, inclusive, and diverse.

Here are some links that might help you think through these ideas:

- Decolonising the Curriculum
- Academic Racism: The Repression of Marginalized Voices in Academia
- Doing anti-racist academic work

Scholarly teaching is, at its core, an approach to teaching that is informed by inquiry and evidence (both one's own, and that of others) about student learning. It focuses on examining the ways in which we construct the learning environments that we offer students, the attention we pay to students and their learning. In the book, Making Teaching and Learning Visible (Bernstein, Burnett, Goodburn and Savory, 2006), the authors make the point that, "An excellent teacher is one who is engaged in a well-prepared and

intentional ongoing investigation of the best ways to promote a deep understanding on the part of as many students as possible." (2006, p. 215) And, that, is what Scholarly Teaching is all about. It is about seeking evidence that what we are doing is getting at the heart of learning and it is about sharing what we know and the evidence that we have with our colleagues.

The Value of SoTL and Scholarly Teaching for those in Instructional Roles

Many SoTL practitioners, publications, and journals list potential benefits of a proactive approach to classroom scholarship, some of which are articulated in "Making a Case for SoTL." This video (2:14 mins) also makes a case for institutions to support those who are engaging in SoTL research.

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From the list of potential benefits below, pick the top three statements that would motivate you to become more engaged in SoTL activities. You might also consider other benefits that you can think of that are not on this list.

- Improved outcomes and assessment scores.
- Useful data for assessments, program reviews, retention strategies, and accreditation processes.
- Faculty development opportunities.
- Increased reflection on teaching and learning among

colleagues.
- Increased diversity in voice and perspective in your pedagogy.
- Stronger institutional values on teaching and learning.
- Promotion of new networks among members at institutions.
- Scholarship opportunities in the form of presentations and publications.
- Opportunity for outside funding to support program innovation.
- Renewed excitement about teaching and learning, and greater self-awareness.

Considerations for your SoTL Project

Watch the video (5:00 mins) below to learn about SoTL projects. The video provides examples from three instructors who describe their research projects, the questions they were seeking to answer, and how they benefited from the experience. The video participants describe their large and small-scale questions, and research projects that were very specific to their disciplines and their interests. You may wish to start small with your own research.

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Like any research project, a SoTL project requires you to formalize your research approach. Remember, **what is different about SoTL is that the focus is on improving learning outcomes as a result**

of practices you implement, research, assess, and report. Typical considerations include:

- Identifying a research problem or a challenge of practice that interests you.
- Developing a research question from the identified problem or challenge.
- Using relevant literature to inform your study.
- Designing a specific project and choosing an appropriate methodology.
- Obtaining Research Ethics Board (REB) Approval for your research
- Finding support or funding to provide you time and space to conduct the research.
- Considering a networking and dissemination strategy to share your research and invite discussion from colleagues.

Your own research experience may predispose you to follow a deductive or quantitative approach to test a current approach to the problem. Alternatively, you may wish to take a more exploratory, inductive approach using qualitative methods to illuminate new thinking about a teaching/learning problem. It is really up to you what approach you take.

What areas of teaching practice would you like to explore?

Is there a teaching practice that presents a challenge? Would you like evidence that something that you do has an impact on the way your students learn? Is there something you would like to try in your classroom and explore if it works the way you intended? There are some well-known areas of practice that SoTL researchers have probed through classroom projects. These resources from the

University of British Columbia discuss some areas that may be of interest to you:

- **Flipped classroom**
- **Experiential learning**
- **Blended learning**
- **Peer assessment and feedback**
- **Helping students to get the most out of studying**
- **Test-enhanced learning**
- **Student misconceptions**

Other Tools to Support SoTL Research, Design and Organization

The University of British Columbia provides SoTL Explorer, which you can use as you consider how to frame your projects in a research context. Examine this resource to further your understanding of SoTL. http://sotl-explorer.sites.olt.ubc.ca

Designing Your SoTL Project

Now comes the interesting part: Designing a SoTL project of your own. The University of Lethbridge and The Higher Education Quality Council of Ontario (HEQCO) provide useful links for planning a SoTL research project:

- U of L Teaching Centre and SoTL
- Researching Teaching and Student Outcomes in Postsecondary Education: A Guide

Exercises

Activity #1

Purpose of Task: The purpose of this task is to encourage you to start planning your SoTL project.

Task: Outline a research plan for an SoTL project in your area of interest.

Step 1: If you want to work in Google Docs, you can make a copy of the SoTL Research Plan template that is automatically saved in your own Google account. When the copy is made, edit the file name to include your name and institution name. Or, if you prefer to edit in another format, you can view the document now and use the **File** -> **Download** menu to save it as a MS Word document.

Step 2: Examine each of the practice resource links provided in the **"What areas of teaching practice would you like to explore?"** section of the Scholar Module and the UBC SoTL Explorer if you haven't already.

Step 3: Edit your SoTL Research Plan (Google Doc or MS Word) to describe your thinking about an area of research interest and a potential framework you are considering. Be sure to include considerations of any ethical concerns with the research you are planning.

Ethics of SoTL Teaching

As you design your project remember that SoTL research primarily addresses the impact of one's teaching practice upon learning. SoTL's ethical challenges stem from the fact that this has the potential to create a power differential between the researchers and their learners. In situations where we conduct research in our own classrooms, these issues can be complicated by our dual responsibilities as both teacher and researcher and by the power differential inherent in the relationship between teacher and learner. Other potential issues may arise around the confidentiality of data, the use of instructional time for research and learners feeling compelled to participate in the research for fear of non-participation impacting their grades or course/certificate completion.

Institutions of higher learning throughout Canada have adopted the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (TCPS2) as the core human research ethics guideline. The information on the TCPS2 website covers the ethical conduct of all faculty (full- or part-time), post-doctoral fellows, graduate students, undergraduate students and staff ho conduct research with humans, including research on teaching, learning and student outcomes. The website provides considerable support materials. SoTL researchers should contact their institutions' research ethics offices early in the research design phase to ask for advice about how to address any ethics issues that might arise during their SoTL research.

Publishing and/or Presenting Your SoTL Research

Before you present or publish your own SoTL research, take the time to examine and learn from what others have done. Watch the following video to learn about other instructors experiences with sharing SoTL research.

- Centennial College: Scholarship of Teaching and Learning and Teaching and Learning in Higher Education (2:59 mins)

Module Checklist
I have completed the following:
• Identified three key characteristics of the Scholarship of Teaching and Learning (SoTL) that professionally resonate with me.
• Determined motivational reasons for becoming engaged in SoTL activities.
• Outlined a research plan for an SoTL project in your area of interest.
• Further refined my SoTL plan.
• Determined a SoTL research plan dissemination strategy.
• Shared my SoTL research plan within my institution. Note: This stage may take several weeks depending on your approach.
• Check in: Reach out to the Teaching Centre if I have questions, concerns or ideas.

Additional Resources: The next page contains essential resources for planning and designing your blended/online courses.

2. Resources

Resources

Accessibility

- **Universal Design for Learning (UDL)** is a framework used to improve and optimize teaching and learning for all students.
- **Accessibility Toolkit by BCcampus**

Assessing Technology Tools

- **The SECTIONS Model** to help you make effective decisions about the choice and use of media for teaching and learning

Blending Learning

- **Blended Learning Toolkit** is an open educational resource designed to guide the design and development of your blended/online course.
- **Col Framework** is a process of creating meaningful learning experiences through the development of three interdependent elements, social, cognitive and teaching presence. Also see **Community of Inquiry Mind map**
- **Khan Academy** offers a course to better inform your understanding of high-quality blended learning.
- **University of Alberta, Centre for Teaching and Learning Blended Design and Development**

Learning Theories

- **Learning Theories** (Behaviourism, Cognitivism & Social Constructivism) to guide your understanding of course design as it pertains to your particular discipline

Instruction

- **Merrill's First Principles of Instruction** are a set of guiding principles that outline effective and efficient instruction.
    - **Summary of Merrill's First Principles of Instruction**
- **McGill University Discipline-specific Resources for Remote Instruction**

Open Educational Resources (OER)

- **Alberta Open Educational Resources (OER)** is a collaborative, no-fee publishing service for open textbooks and other open educational resources.
- **eCampusOntario: Open Library**
- **Manitoba Open Textbook Intitiative**
- **Open Educational Resources (OER)** to learn more about how you can adapt and adopt OER resources in your course
- **Shareable Online Learning Resources (SOL*R)**
- **University of British Columbia OER Accessibility Toolkit**

Online Learning Course Design

- **Backward Design** is a form of curriculum design in which curriculum is designed in reverse. It is first approached with

the desired results (end goal) and then worked through backwards.

Additional backward design links: https://udlresource.ca/2017/12/backward-design/

- **Gilly Salmon's Five Stage Model** is a structured approach to scaffolding learning activities.

Strategies for instruction

- **Mind mapping** Mind mapping has been found to be an effective means of helping students organize new learning while reinforcing previous learning and improving information retrieval.

Teamwork

- **Teamwork and Group Work Guidelines to support students working in groups**

3.

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