

125 ONLINE LEARNING INNOVATIONS

- Educational Resources
- Blended Learning
- Student Engagement
- Online Assessment
- Planning
- Faculty Development and Support
- Online Support Services for Students

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THE POCKETS OF INNOVATION SERIES

Ontario's 24 public colleges and 22 public universities are a hotbed of innovation in emerging technologies and online tools focused expanding and improving learning opportunities for students through online and blended learning innovations.

From 2011 through 2014, Contact North | Contact Nord visited innovators at public colleges and universities across Ontario to learn about their initiatives in online, blended, and technology-enabled learning.

The [Pockets of Innovation Series](#) showcases 125 ground-breaking projects focusing on transforming the learning experience for students, increasing excellence and productivity in the delivery of learning, enhancing engagement for students, and fostering innovation and creativity amongst students and faculty and instructors.

These ground-breaking projects are profiled on teachonline.ca and meet 3 specific criteria:

1. They represent a new approach;
2. They directly support students; and
3. The developers are prepared to share what they've learned with other public colleges and universities in Ontario and the challenges they encountered.

In reviewing all 125 Pockets of Innovation, a series of 7 themes emerged showing where the colleges and universities are focusing their efforts at innovating in online learning.

The seven themes include:

- **Creating and Adapting Educational Resources**

Under this theme, we uncover the innovative ways Ontario's public colleges and universities developed and adapted a plethora of educational resources in a multitude of format to respond to student needs for access, alternative approaches to learning, information resources, applied learning opportunities, interaction, and new approaches to assessment.

- **Making the Most of Blended Learning**

Under this theme, we uncover a striking diversity of models of blended learning at Ontario's public colleges and universities with each approach suiting particular student groups and content.

- **Online Learning Focused on Student Engagement and Flexibility**

Under this theme, we uncover examples of models and approaches to online learning in Ontario's public colleges and universities built around new pedagogies that focus on student-centred learning and new roles for faculty.

- **Enhancing Learning through Online Assessment**

Under this theme, we uncover the creative approaches used by public colleges and universities to online assessment and evaluation for enhanced learning and higher grades.

- **Planning for Online Learning**

Under this theme, we uncover five-year plans, institutional strategic documents, and plans for technology-enhanced learning at Ontario's public colleges and universities that feature online and/or blended learning as central to their mission and future.

- **Faculty Development and Support**

Under this theme, we uncover the myriad of opportunities Ontario's public colleges and universities offer to faculty and instructors for training, support, and access to resources to facilitate their transition to online and blended learning and teaching.

- **Innovative Online Support Services for Students**

In the sections that follow, we uncover each of these seven themes in greater detail with specific examples of the innovative work taking place on our public college and university campuses.

Contact North | Contact Nord
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A WORD FROM ONTARIO'S MINISTER OF TRAINING, COLLEGES AND UNIVERSITIES

Ontario supports a world-class post-secondary education system that helps Ontarians pursue their passions and gives the province a workforce with the right skills and knowledge to actively contribute to our 21st century global economy.

A key component of achieving this goal is ensuring that all Ontarians have access to flexible online learning opportunities. These programs should support students as they pursue their university degree, complete their college diploma, participate in professional development opportunities and upgrade their existing skills for the jobs of today and tomorrow.

I'm pleased to say that Ontario's post-secondary sector is a leader in the provision of quality online learning opportunities, with more than 1,000 online programs and 18,000 online courses available for Ontarians.

Online learning presents both opportunities and challenges for our post-secondary sector. We have a tremendous opportunity to continue expanding online learning to better reach Ontarians no matter where they live in our province, to provide flexible options for students to pursue their education and training when it best suits them, and to support economic development in our communities.

But as we continue to expand online learning, we need to ensure that we do what we can to support students no matter where they live, provide our faculty and instructors with the best skills training available to teach online and make sure that we have a curriculum and content that is designed specifically to maximize the value of online learning.

Our public colleges and universities have risen to the challenge. Contact North | Contact Nord's Pockets of Innovation Series shows us how our post-secondary institutions are world-class innovators in online learning. They are successfully developing new ways of supporting online learners, ensuring we have trained faculty and instructors, offering quality curriculum and content, using strong assessment tools and engaging students using blended learning.

I encourage you to explore the seven different themes within the Pockets of Innovation Series and uncover how our public colleges and universities are improving the learning experience for students by innovating in all key areas of online learning.

Honourable Reza Moridi
Minister of Training, Colleges and Universities

THEME # 1 – CREATING AND ADAPTING EDUCATIONAL RESOURCES

Faculty at Ontario's public colleges and universities developed and adapted a plethora of educational resources in a multitude of formats to respond to student needs for access, alternative approaches to learning, information resources, applied learning opportunities, interaction, and new approaches to assessment. Some are available to all as open educational resources and others are directed to students of a single institution.

Examples from the Pockets of Innovation Series illustrate the scope and contribution of these learning tools. In this summary, the focus is on educational resources that expand student access to content, format, communication, and assessment options.

Mobile devices, e-texts, and tablets provide expanded access to resources, offering learning anywhere, anytime, and on any device.

ACCESS OPTIONS: At numerous colleges and universities, including [Lambton College](#), [George Brown College](#), and [Nipissing University](#), concerted efforts are being applied to the development and/or conversion of resources so they are accessible on mobile devices, offering students anywhere, anytime learning that fits with their complicated and demanding lives.

The integration of e-books, whether developed in concert with publishers as at [Algonquin College](#) or as course-specific resources as at the [University of Windsor](#), expands textbook availability to all students. Using their choice of device, students can access text, visuals, quizzes, and other rich media at prices far below that of print textbooks.

At [Conestoga College](#), tablets are part of face-to-face classes for enriched teaching and learning, with lecture support material, the professors' in-class work and comments, practice exercises, and student notes shared and stored for later review. An open source web conferencing system was developed at [Carleton University](#) for students to communicate and collaborate without the necessity of meeting on campus.

Virtual reality allows the learning of skills in a safe environment that mirrors real-life situations.

ALTERNATIVE APPROACHES: Virtual reality allows students to participate in simulated real-life situations in an environment that is safe and supportive. Simulations stress interdisciplinary learning, cooperation, careful situational analysis, real-time communication, and other skills best conveyed through experience.

The [Pockets of Innovation Series](#) includes examples of applications of virtual reality and simulations for archeology, language, security, social work, health sciences, veterinary studies, and other courses at public colleges and universities, such as [Durham College](#), [Georgian College](#), [Sheridan College](#), [Nipissing University](#), the [Northern Ontario School of Medicine](#), and early developments in [Carleton Virtual](#) and more advanced applications at [Carleton University](#). [Loyalist College](#) created virtual environments for teaching and learning in [border security](#), [food processing and hospital careers](#), and [ecology and health sciences](#).

Massive Open Online Courses (MOOCs) developed at [Fanshawe College](#) and the [University of Toronto](#) were assessed for their contributions to international learning, on-campus students, and pedagogical theory.

Resources that would have been difficult to access and content that can be reviewed according to needs offer students better learning.

Using tools such as question banks and learning objects, students can repeat exercises, manipulate objects, and learn essential skills in ways that are practical only in online applications.

Interaction, engagement, and student contributions to knowledge building are all facilitated through integrating social media and other apps into course designs.

INFORMATION AND CONTENT: Online resources expand access to collections that might otherwise be restricted, such as the digital archive at [Algoma University](#) dedicated to the history of Residential Schools, collections of lab specimens and anatomy slides that can be manipulated online from [Western University](#), videos of demonstrations and brief lectures from [Carleton University](#) available on YouTube, science and health resources for students, the public, and health professionals from the [University of Ottawa](#), and from [Ryerson University](#), open access videos, documentaries, role-playing games, and learning objects as tools for instructors and students.

Full courses were developed as open educational resources, combining videos, lectures, animations, and other tools, offering students a certificate of completion and the opportunity to write a challenge exam for credit.

APPLIED LEARNING: Educational resources developed by faculty and instructors in Ontario offer opportunities for practice, self-assessment, and supplementary learning. Online delivery has proven to be particularly effective in providing resources for self-assessment, an essential aspect of students taking responsibility for their own learning.

Through the provision of online question banks at public colleges and universities, such as [Carleton University](#), students can practice in a safe environment, receive correction and feedback, and target their areas of uncertainty and need. Learning objects, such as those developed at [Fanshawe College](#) and [Durham College](#) or integrated from a commercial supplier at [Canadore College](#), allow students, especially those in apprenticeship programs, to perform tasks that could be risky, expensive, and difficult in real-life situations and that reinforce and extend theoretical learning.

Online modules from [York University](#) and [McMaster University](#) provide support for essential learning and workplace skills, such as research, communication, group work, time management, note taking, and project management. At [Nipissing University](#), education students are given access to software and technology to be considered for use in their future teaching careers.

INTERACTION: Social media and other apps are featured in many course designs, from Twitter-based debates at the [University of Windsor](#) to Facebook interactions between students on two continents at [Wilfrid Laurier University](#) to posting and sharing of favourite articles and visuals related to weekly topics at [Seneca College](#).

At public colleges and universities across the province, students create blogs, videos, and visual displays, use Google Maps and Street View, mind mapping software, and podcasts, and communicate on discussion

boards and wikis. In this way, resources that best suit any learning preference are available. Students learn about academic uses of apps they are familiar with and about many more learning tools on the web. New ways of engaging with content, professors, and each other demonstrate benefits in motivation and improved grades.

Online tools support active interdisciplinary learning through case studies.

INTERDISCIPLINARY LEARNING: Online resources for interdisciplinary learning were developed for application in the health sciences at the [University of Ottawa](#) and [Queen's University](#) and for professionals involved in responding to a disaster at [Centennial College](#). Case studies form the basis of these tools, with live, online interaction and subsequent discussions. An interdisciplinary diploma in Applied Aboriginal Studies is available to Aboriginal students at [Centennial College](#), using online and hybrid courses from faculties across the college.

Students can receive more detailed feedback on assignments and tests in a shorter timeframe, through the use of online marking tools.

ASSESSMENT: Assessment tools developed at Ontario's public colleges and universities include software for peer assessment, allowing students to learn and improve their assignments through assessing their fellow students' work and receiving constructive comments on their own. Examples can be found at the [University of Guelph](#) and the [University of Toronto](#). Faculty and instructors create rubrics to guide students in their assignments and, using these rubrics and electronic marking, provide students with detailed feedback on all types of assignments and tests in a much-reduced time frame.

Seeing a possibility for improvement or a need for change, faculty and instructors at Ontario's public colleges and universities developed and adopted online tools and resources to improve all aspects of teaching and learning.

PUBLIC COLLEGES AND UNIVERSITIES FEATURED IN THIS THEME

Algoma University - [The Shingwauk Project: Creating a digital archive to preserve the history of Residential Schools for generations of student learning](#)

Algonquin College - [e-Textbooks at Algonquin College: 100% of the students with 100% of their resources 100% of the time](#)

Canadore College - [Developing Online Learning Opportunities for Apprentices in the Motive Power Department at Canadore College](#)

Carleton University - [BigBlueButton: Building an open source web conferencing and collaboration platform to support off-campus students](#)

Carleton University - [Carleton Virtual: Using virtual space as an environment for student learning](#)

Carleton University - [Expanding Reality for Learning: Using Carleton Virtual for Language Learning at Carleton University](#)

Carleton University - [Online Interaction to Enhance the Learning of First-Year Chemistry Students at Carleton University](#)

Carleton University - [Improving Student Success in Financial Accounting with Online Learning at Carleton University](#)

Centennial College - [Playing to Learn: A disaster simulation game for interdisciplinary learning at Centennial College](#)

Centennial College - [Starting with Pedagogy: New learning management system and an Interdisciplinary Applied Aboriginal Studies Diploma Program for Aboriginal students](#)

Conestoga College - [Using Tablets in the Classroom to Enhance Learning in Business Maths Courses at Conestoga College](#)

Durham College - [Critical Care Nursing: Province-wide access to learning from a combination of online theory simulation and hands-on experience](#)

Durham College - [Linking Online and Experiential Learning: A hybrid model for apprenticeship education through a partnership between Sault College and Durham College](#)

Fanshawe College - [MOOCs at Fanshawe: Designing and Offering a Massive Open Online Course \(MOOC\) at Fanshawe College](#)

Fanshawe College - [Creating Learning Objects: Supporting student learning with online resources at Fanshawe College](#)

Georgian College - [Experiential Learning through Simulations in a Second Life Virtual Campus at Georgian College](#)

Lambton College - [Supporting Institutional Change: The Learning Innovation Centre at Lambton College](#)

Loyalist College - [Border Simulation: Student learning in a virtual world](#)

Loyalist College - [Simulations for Learning: Creating a virtual environment for learning](#)

Loyalist College - [Virtual Learning Environment: Developments in virtual reality for learning at Loyalist College](#)

McMaster University - [Expanding Literacy: Online resources in information and geospatial literacy for students](#)

Nipissing University - [Going Mobile: Developing and supporting mobile learning opportunities for students](#)

Nipissing University - [Making Virtual a Reality: Introducing virtual reality learning opportunities for students at Nipissing University](#)

Nipissing University - [The iTeach Laptop Learning Program: Integrating educational technology into teacher education](#)

Northern Ontario School of Medicine - [Communication and Engagement: Towards a seamless network linking faculty and students of the Northern Ontario School of Medicine](#)

Queen's University - [Active Learning: Using online technologies to support new ways of learning for medical students](#)

Ryerson University - [Setting the Stage for Student Success: Digital Education Strategies at The G. Raymond Chang School of Continuing Education](#)

Seneca College - [Integrating Facebook and Twitter: Helping Students Learn How to Learn Using Social Media at Seneca College](#)

Sheridan College - [Building a Dog Skeleton: A simulation-based learning tool for students](#)

University of Guelph - [Peer Assessment: Student Learning through Online Peer Evaluation Assessment and Review](#)

University of Ottawa - [Online Resources for Science and Health: Extending Learning Opportunities at the University of Ottawa](#)

University of Ottawa - [Interdisciplinary Learning: Creating an online framework to facilitate student learning in multiple disciplines](#)

University of Toronto - [Massive Open Online Courses \(MOOCs\) – The First Steps at the University of Toronto](#)

University of Toronto - [Peer Assessment and More with peerScholar](#)

University of Windsor - [Assessing the Potential of e-Textbooks at the University of Windsor](#)

University of Windsor - [Using Twitter in the Classroom for Student Engagement and Exchange at University of Windsor](#)

Western University - [Online Microscopic Anatomy Laboratory Courses – Including Virtual Microscopy Slides at Western University](#)

Wilfrid Laurier University - [Active Learning in an Intercultural Online Environment at Wilfrid Laurier University](#)

York University - [SPARK, the Virtual Learning Commons: An online resource for academic literacy at York University](#)

THEME # 2 – MAKING THE MOST OF BLENDED LEARNING

A striking diversity of models of blended learning is found at Ontario's public colleges and universities, each approach suiting particular student groups and content. Accompanying this range of delivery formats, principles and perceptions emerged from the experience of the professors and their students related to pedagogy, structure, and strategies.

In this summary, the focus is on the blended learning (also called hybrid learning) examples found in the [Pockets of Innovation Series](#) and how student access and success are enhanced in post-secondary education.

BLENDED LEARNING MODELS

Students use online modules to learn core content and prepare for face-to-face classes that stress participation and active learning.

Flipped Classroom: In the widely used flipped classroom model, weekly online modules feature what is often the core content of the course through readings, practice exercises, self-assessment quizzes, videos, discussion boards, images, and a multitude of other resources students complete before class, thereby arriving informed and ready to participate. The face-to-face portion includes a session with the professor and/or group tutorials headed by teaching assistants, focused on problem-solving, field trips, practical exercises, and discussions – whatever forms of participatory learning best suit the course.

This model is used at many public colleges and universities, including [Cambrian College](#), [Lambton College](#), [McMaster University](#), [Wilfrid Laurier University](#), and in courses in [calculus](#), [sociology](#), [classics](#), and [psychology](#), at [Queen's University](#). The flipped classroom, often used in large-enrolment and first-year courses, offers students the possibility of developing content expertise in their own time and pace, while the classroom highlights engagement and exchange rather than lengthy lectures.

Course structures feature weeks of fully face-to-face, blended, and/or online classes to develop technology skills and build student interaction.

Alternative Delivery: In some blended courses, professors combine weeks of face-to-face classes with other weeks provided completely online, such as in the Human Services program at [Mohawk College](#). The blend of face-to-face and online delivery in language/communications courses taken by all students at [Mohawk College](#) is modified to meet the needs of each program and its students.

At [Durham College](#) and [Niagara College](#), professors include all three formats with students progressing over the weeks of a course from face-to-face classes, to blended delivery, to fully online learning. Students become familiar with the technologies and strategies for learning online, while also having the opportunity to build community in the face-to-face classroom. In a course at [George Brown College](#), students work collaboratively with the professor to build course content and resources that are shared with their classmates. [Canadore College](#) is developing courses for apprentices, with online learning offered to students in the workplace combined with on-campus practical sessions.

Offering Complete Programs: In a model used in health science programs at [Lakehead University](#) and apprenticeships at [Durham College](#) and [Sault College](#), all course content for the completion of a degree, diploma, or certificate is delivered online, followed by, or integrated with, face-to-face practical experience in shops, labs, and clinical placements. The online content for a complete program may be developed by one college or university or jointly developed and shared among many institutions, or may be jointly developed and shared across institutions on a provincial basis so students can study online and attend face-to-face sessions in their communities.

[Nipissing University](#) offers a degree completion option for students with three-year business diplomas through a blended learning partnership with a number of colleges. The availability of blended programs has greatly extended access to post-secondary education in northern and Aboriginal communities, as shown in experience like those at [Lakehead University](#).

FACULTY PERCEPTIONS AND EXPERIENCES

The professors, whose experiences are featured in the [Pockets of Innovation Series](#), offered a number of perceptions and principles regarding blended learning.

- Course development often begins with an examination of course content to determine what can best be taught online and what is most suitable for face-to-face teaching and learning. Guiding this is a shift in pedagogical thinking that emphasizes the importance of student involvement, both online and in-class, for optimal learning. One consequence of this is a change in approach to classroom teaching, from delivery of content to engagement, which impacts not only blended learning classes but also the faculty approach to teaching overall.
- Collaboration with the centres for learning and teaching at public colleges and universities is beneficial in understanding the new approaches to teaching and learning and the capacities, contributions, and challenges of technologies. Development of the modules requires considerable time and creative commitment.
- Students appreciate the opportunity to prepare for more engaging classes rather than long, one-time-only lectures. Blended learning modules allow self-paced learning and are available for review and for targeted studying on points of difficulty. Students often arrive at class eager to apply what they learned to real-life situations and problem-solving.
- Blended learning also requires dedication and discipline on the part of students as core content is no longer delivered in lectures. One professor calls this “the double-edged sword of self-paced learning.” Many faculty encountered difficulties convincing students the online portion of a blended course is not optional, but rather is core content essential for successful course completion. Weekly online quizzes for marks, online group and individual projects, time limited access to modules, and other strategies were adopted to encourage continuous participation.

Blended learning complements the trend in Ontario's post-secondary sector to more active, engaged, and experiential learning, while also extending access by making learning more flexible and individually-paced. Research in many institutions demonstrates an increase in student grades in blended learning courses, with results higher than those from face-to-face delivery and online learning. This mode of delivery was adapted to suit students across faculties and disciplines, as indicated in the extensive list of examples below from the [Pockets of Innovation Series](#).

PUBLIC COLLEGES AND UNIVERSITIES FEATURED IN THIS THEME

Cambrian College - [Student Choice: Offering Multiple Course Design Options for Better Access and Learning at Cambrian College](#)

Canadore College - [Developing Online Learning Opportunities for Apprentices in the Motive Power Department at Canadore College](#)

Durham College - [Combining Traditional, Hybrid, and Online Learning in a Progressive Delivery Model at Durham College](#)

Durham College - [Linking Online and Experiential Learning A hybrid model for apprenticeship education through a partnership between Sault College and Durham College](#)

George Brown College - [Student-Generated Course Content: A student-centred pedagogical model for teaching and learning](#)

Lakehead University - [From Access to Graduate Programs: An extensive array of learning opportunities for nursing and health science students](#)

Lakehead University - [Aboriginal Education: Offering a honours degree program focused on becoming a teacher with the specialization of teaching students of Aboriginal ancestry at Lakehead University](#)

Lambton College - [Converting to Hybrid Teaching – Realizing the benefits of blended courses for teaching and learning at Lambton College](#)

Mohawk College - [Blended Learning for Students in Health Sciences and Human Services at Mohawk College](#)

Mohawk College - [Implementing Blended Learning in Language Studies at Mohawk College](#)

McMaster University - [Blended Learning in Introductory Psychology: An IntroPsych blended learning model](#)

Niagara College - [Commitment to Students and Excellence: Developing self-directed learners through iLearn at Niagara College](#)

Nipissing University - [Nipissing College Partnership Plan: Nipissing University's School of Business Partners with Colleges to Deliver a Business Degree Option](#)

Queen's University - [Developing a Blended Learning Course for More Engaged Learning in Calculus at Queen's University](#)

Queen's University - [Designing First-Year Sociology for the Millennial Generation at Queen's University](#)

Queen's University - [Teaching and Learning in a Course in Ancient Humour using a Blended Format at Queen's University;](#)

Queen's University - [Engaging First-Year Students: A Blended Learning Model for Active Learning](#)

Queen's University - [Strategic Advancement: Moving Ahead with Blended Learning at Queen's University;](#)

Queen's University - [Teaching and Learning in a Course in Ancient Humour using a Blended Format at Queen's University;](#)

Sault College - [Linking Online and Experiential Learning A hybrid model for apprenticeship education through a partnership between Sault College and Durham College](#)

Wilfrid Laurier University - [Encouraging Student Independence: A blended learning model for Organic Chemistry at Wilfrid Laurier University](#)

THEME # 3 – ONLINE LEARNING FOCUSED ON STUDENT ENGAGEMENT AND FLEXIBILITY

Examples of models and approaches to online learning abound in Ontario's public colleges and universities, built around new pedagogies that focus on student-centred learning and new roles for faculty. Online learning designs provide students with increased options for access to learning, flexibility, interaction and engagement, styles of teaching and learning, opportunities to learn about both content and technologies, and access to students in other countries.

This summary focuses on the creative designs for online learning featured in the Pockets of Innovation Series that exemplify each of these concepts.

Students can participate in classes in a format and time frame that best suits their lives and preferred learning approach.

MULTIPLE FORMATS: In an approach found particularly in examples from public colleges in northern Ontario, courses are offered in multiple formats, often allowing the students to choose how they attend each class. The availability of the lectures and resource material online means their time and style of participation can be flexible to suit their schedules.

Among the wide options made available by [Cambrian College](#), [Canadore College](#), [Confederation College](#), [Northern College](#) and/or [Sault College](#) are:

- Online programs and courses developed at each college for students at home, in synchronous formats;
- Online programs and courses developed at each college for students at home, in asynchronous formats;
- Synchronous web conferencing, videoconferencing and/or audioconferencing available through Contact North | Contact Nord's 112 online learning centres;
- Access to recorded lectures for the students to view online at their convenience;
- Blended courses combining online content from another college and on-campus active learning;
- Courses from other colleges assessed for equivalency and taken online for program credit;
- DVDs provided for students in areas with limited bandwidth;
- Some courses offered online are also available in face-to-face classes; and
- In some courses, students can choose which format to use on a rotating basis, alternating between in-class attendance and synchronous and asynchronous participation in the virtual classroom.

ONLINE PROGRAMS: In the [Pockets of Innovation Series](#), a number of complete programs available online are highlighted, particularly in health sciences and education.

Programs, at the certificate, degree, and post-graduate levels are available online, often with community-based practicum to extend accessibility.

Graduate degrees include the interdisciplinary Master of Health Management from [McMaster University](#), and the problem-based, synchronous Master's degrees in Education and Digital Technologies at the [University of Ontario Institute of Technology](#). The [University of Ottawa](#) provides, and makes use of, courses from a national online consortium offering French-language professional development programs in health.

[Lakehead University](#) offers online programs in nursing, gerontology studies, and a Master's in Public Health, while [Nipissing University](#) works with partners across Ontario so students in the online Bachelor of Science in Nursing can complete the practicum in their own communities. These online programs are of particular benefit to students in northern and Aboriginal communities.

Student interaction with each other, the professor, and the content is integrated into course design in multiple, creative ways.

INTERACTION AND ENGAGEMENT: The lack of direct contact is often cited as a limitation of online learning: to address this challenge, faculty and instructors in Ontario design ingenious ways to ensure students connect with each other, the professor, and the content.

A course at [Durham College](#) not only facilitates student interaction in assignments and projects, but also stresses the creation of a social presence by each student and a design that fosters interaction with the content. In another [Durham College](#) course, connections to the lives of the students and the material they previously studied guide the content, its presentation, and related activities. At [Cambrian College](#), eDome serves as a facility for delivery of all formats of distance education that link together students from multiple communities, as well as a production centre for sophisticated educational resources.

A course at [Carleton University](#) concludes with an online debate that draws together all the key themes, and offers experience in presenting and referencing points of view. In a graduate degree course at [Western University](#), the focus is on making connections with people, content, new ideas, and the technology through collaborative learning, student development of content, the professor as co-learner, and peer assessment. Many other courses integrate blogs, discussion groups, group assignments, break-out rooms, and other strategies for student cooperation and collaboration.

Synchronous online courses feature students working in small groups, directly with the professor to solve problems, participating in lectures, and accessing resources in real-time, re-creating the connections made in an active learning classroom.

SYNCHRONOUS TEACHING AND LEARNING: At public colleges and universities, such as the [University of Ontario Institute of Technology](#), professors chose to take advantage of the immediacy and connections of synchronous online learning, integrating lectures, videos, break-out groups, class presentations, polls, discussions, and sharing of documents and resources in real-time.

At [Western University](#), students choose an online, synchronous or in-class course in Human Anatomy, accompanied by an online lab using a virtual 3D slide set. Students in the Literacy and Basic Skills Program at [Confederation College](#) take courses from home or the local Contact North | Contact Nord online learning centres, working online at their own pace in full-time day-time or part-time evening classes.

The instructors are online for the same hours as the students to offer support and answer questions.

Using case studies, discussion boards, student assignments, and common experiences, students build and share knowledge, supported and guided by the professor.

BUILDING KNOWLEDGE AND COMMUNITY: Online learning often involves students in the role of teacher as well as learner, with the professor becoming a guide and participant in the process.

At the [University of Toronto](#), online courses are structured so the students work together to build knowledge through collaboration, using case studies, knowledge sharing and problem-solving in medical studies. A design course at [George Brown College](#) uses the concept of student-created content as well. At [Brock University](#), a community of practice is established so facilitators of the online adult education courses can share experiences, perspectives, and teaching and learning strategies to improve their students' performance. The establishment of a community of learners is core to student participation, with an emphasis on discussion boards and peer evaluation in graduate education courses at [Nipissing University](#).

Social media is the content, as well as the vehicle, for learning in courses that assess and apply apps.

SOCIAL MEDIA: Some online course designs feature social media as both content and vehicle for the learning.

At [Durham College](#), a course in the use of social media for communication, collaboration, and education was developed and adapted to fit into numerous programs. The learning and assignments are built around applications of various apps. In digital media courses at [Queen's University](#), social media is used to encourage student participation, develop digital literacy, support collaborative and self-directed learning, and form the basis of the content and assignments. [Seneca College](#) and the [University of Windsor](#) use Facebook, Twitter, and other apps for student interaction and content sharing.

Linking students together across cultures enhances the learning of content and the understanding of perspectives and experiences.

INTERCULTURAL LEARNING: One of the benefits of online learning is its capacity to reach across times zones and cultures, linking together students from different countries and cultures.

For example, students on the Thai/Burma border shared their experience and opinions on global environmental change with students at [York University](#). Students in Turkey and at [Wilfrid Laurier University](#) shared their understanding and realities in course in Muslim studies.

Experiences at other institutions confirm the added advantages of exchange on an international level, benefitting students in terms of course content and global perspectives and understanding.

Online learning is firmly integrated at public colleges and universities across Ontario, offering student greater access, flexibility, participation in teaching and learning, and experiences not possible in a face-to-face classroom. Faculty adapted their thinking about how to teach, making creative use of the opportunities online learning provides.

PUBLIC COLLEGES AND UNIVERSITIES FEATURED IN THIS THEME

Brock University – [Facilitator Community of Practice: An online communications and information environment for facilitators of adult education programs](#)

Cambrian College – [Student Choice: Offering Multiple Course Design Options for Better Access and Learning at Cambrian College](#)

Cambrian College – [eDome: A high-end facility for the production and delivery of enhanced online learning opportunities for students](#)

Canadore College – [Expanding Flexible Access in the School of Sports and Recreation at Canadore College](#)

Carleton University – [Increasing Student Enrolment, Retention, and Participation through Online Delivery of an Introduction to Québec Society Course at Carleton University](#)

Confederation College – [Reaching Out: Delivery options that provide anywhere, any time learning opportunities for students at Confederation College](#)

Confederation College – [Synchronous, Interactive, and Individual - Online learning opportunities for adults at Confederation College](#)

Durham College – [Designing Online Courses with Visual Stimulation to Enhance Student Engagement at Durham College](#)

Durham College – [Developing Online Courses that Connect to Students' Lives at Durham College](#)

Durham College – [Social Media and Society: Using social media for student learning about social media at Durham College](#)

George Brown College – [Student-Generated Course Content: A student-centred pedagogical model for teaching and learning](#)

Lakehead University – [From Access to Graduate Programs: An extensive array of learning opportunities for nursing and health science students](#)

McMaster University – [Master of Health Management: Flexible learning for health care professionals](#)

Nipissing University – [Providing Access and Flexibility: Innovative learning opportunities for nursing students at Nipissing University](#)

Nipissing University – [Community of Learners: Supporting and assessing online communications with Faculty of Education graduate students at Nipissing University](#)

Northern College – [Flexibility in the Design and Delivery of the Mining Engineering Technician Program at Northern College](#)

Queen's University – [Connected Teaching and Learning: Using online delivery and social media for more engaged and effective learning](#)

Sault College – [Offering alternatives - Enhancing student learning through flexible course delivery at Sault College](#)

Seneca College – [Integrating Facebook and Twitter: Helping Students Learn How to Learn Using Social Media at Seneca College](#)

University of Ontario Institute of Technology - [Developing Autonomous Learners: Degree programs in education and digital technologies](#)

University of Ontario Institute of Technology - [Graduate Degrees through Synchronous Online Learning at the University of Ontario Institute of Technology](#)

University of Ottawa - Professional Development: Developing online resources for health professionals

University of Toronto - [Knowledge Building: Using online environments for case-based learning in the health sciences](#)

University of Windsor - [Using Twitter in the Classroom for Student Engagement and Exchange at University of Windsor](#)

Western University - [Teaching in a Virtual World: Students connecting as online teachers and learners in the Faculty of Education at Western University](#)

Western University - [Online Microscopic Anatomy Laboratory Courses – Including Virtual Microscopy Slides – at Western University](#)

Wilfrid Laurier University - [Active Learning in an Intercultural Online Environment at Wilfrid Laurier University](#)

York University - [Intercultural Learning Online: Students on the Thai/Burma Border and at York University Share Their Learning](#)

THEME # 4 – ENHANCING LEARNING THROUGH ONLINE ASSESSMENT

In the new pedagogy of online learning as practiced by faculty and instructors at Ontario's public colleges and universities, assessment has been expanded beyond papers, tests, and final exams that evaluate learning.

Online assessment has become a critical learning tool that:

- Provides timely and detailed feedback;
- Targets learning to each student's area of need;
- Facilitates peer assessment; and
- Encourages the development of new skills.

This summary highlights the creative approaches to online assessment and evaluation for enhanced learning and higher grades uncovered in the [Pockets of Innovation Series](#).

Quick turn-around times are possible for all types of assignments – whether multiple choice or essays.

TIMELINESS: One of the aspects students most appreciate about online marking, as shown in institutions such as the [University of Ottawa](#) and [University of Waterloo](#), is the fast turn-around time, often as short as 24 hours. Assignments with individually-assessed essays and short answers, as well as those with machine-marked multiple choice questions, are returned more quickly. Professors prepare rubrics and comments that address common errors and issues, an approach used at the [Ontario College of Art and Design University](#), and supplement these with individualized feedback for specific points. Students appreciate being able to incorporate the results of one assignment into preparing the next. Software developed at the [University of Toronto](#) organizes marking by large numbers of geographically-scattered markers, allowing quick turn-around of thousands of exams.

Strategies for monitoring online testing allow students to participate from their communities.

EXTENDING ACCESS: [Northern College](#) developed a system of online proctoring that allows students in remote locations to complete monitored exams in their communities. Other institutions allow limited, timed access to exams so they can be completed online rather than requiring attendance at institutional exam centres. At the [University of Ottawa](#), technologies to support exam-taking by students with disabilities were tested.

Students have online access to extensive and continually varied practice questions, supported by correct answers and explanation, so they can repeat and revise until achieving mastery.

ENCOURAGING MASTERY LEARNING: Online tools that allow students to assess, improve, and re-assess their own learning are particularly effective in improving test results and final grades. Students, particularly in maths and science disciplines, can review material they need to master before starting first-year and to support their learning throughout their courses. Pre-tests reveal areas of weaknesses, accompanied by modules with instruction, demonstrations, and extensive banks of practice questions. Students can repeat and re-test until achieving the necessary mastery.

For graded tests in Accounting at [Carleton University](#), students can repeat the tests, responding to randomly generated questions and receiving feedback on their attempts, with the machine choosing the best results. Access to extensive and continually varied practice, supported with correct answers and explanations, is also supported through online math tutoring and similar services. At [Carleton University](#), the resources used for mastery learning in Chemistry are available from a publisher; the modules for Mathematics at [Wilfrid Laurier University](#) were created in-house. At [Durham College](#), online worksheets offer practice as preparation for tests.

Participation and learning are encouraged by the steady accumulation of marks in weekly tests, as well as online preparation for face-to-face classes.

ENCOURAGING PARTICIPATION: Online assessment often includes weekly tests that allow students to steadily accumulate marks throughout a course, encouraging ongoing participation and learning. An example from [Lambton College](#) uses quizzes that are worth only a few marks each, but are also carefully timed to discourage reliance on the textbook. Results from short quizzes are used for purposes other than grades, such as determining the rate of student progress through online modules and pointing out the areas for more attention. In a blended learning course at [Wilfrid Laurier University](#), quizzes at the end of online sections that precede in-class lectures also give professors a sense of topics needing additional explanation or examples and prepare students for more active involvement in the face-to-face sessions.

Students benefit from viewing and assessing other students' work and incorporating peer comments into their own papers.

PEER ASSESSMENT: Many courses incorporate online peer assessment, in which students comment on each other's papers according to clearly defined criteria. The student markers get the experience of assessing and providing useful and constructive comments on another student's work, as well as seeing alternative approaches to a topic they also addressed. The student writers benefit from the feedback they receive and the opportunity to revise their papers. The [University of Guelph](#) and the [University of Toronto](#) both developed tools for peer assessment.

Communication, research, and other group and individual skills are strengthened through assignments.

FOSTERING SKILL DEVELOPMENT: Contributions to online discussion boards, blogs and group projects are often part of the marking matrix, with students expected to offer substantive comments on the issues and each other's posts. As well as adding to subject knowledge, this form of assessment is effective in fostering the development of broader skills, as shown in experience at [George Brown College](#) and [Trent University](#). Concise writing, clear communication, online etiquette, research and referencing, critical thinking, constructive questioning, and the joint building of knowledge are included in the expectations outlined by faculty. As opposed to the submission of a single course paper, weekly discussions offer students frequent opportunities to refine their skills. In a course at [Seneca College](#), students are expected to model industry standards in their online assignments.

e-Portfolios encourage student reflection on their learning and provide tools for showcasing their achievements.

Faculty find online assessment is more mobile, detailed, easily tracked, as well as providing important analysis of student progress and challenges.

HIGHLIGHTING ACHIEVEMENTS: ePortfolios bring together assignments, projects, and other examples of student work and function as valuable tools for students to reflect on, demonstrate, and track progress throughout their academic careers. Online portfolios are used for submitting and commenting on assignments, often in arts-related courses, as well as highlighting student accomplishments to employers, other educational institutions, galleries and other venues. The [University of Windsor](#), [Wilfrid Laurier University](#), and [Nipissing University](#) use e-Portfolios to help students, assess, and present their learning accomplishments.

FACULTY BENEFITS: In addition to creating opportunities for their students to excel, faculty and instructors benefit in other ways from online assessment. Marking is more flexible and mobile, without the need to carry around paper assignments. All submissions are returned electronically – and can also be stored online for future reference. Assessments can be more frequent, more easily tracked, recorded, collated, and reported, with learning analytics providing detailed analysis of individual and group progress, challenges, and comments. The reduction in the use of paper also rates highly with faculty.

Online assessment means that rather than evaluation being separate from, or only at the end of the learning process, assessment can be effectively integrated into the ongoing teaching and learning. In addition to earning grades, students become more self-aware and independent learners, increase their abilities as communicators and critical thinkers, and contribute to the analysis and creation of ideas and perspectives. Faculty and instructors, through their innovations, demonstrate how online assessment can further both independent and interdependent learning.

PUBLIC COLLEGES AND UNIVERSITIES FEATURED IN THIS THEME

Carleton University - [Improving Student Success in Financial Accounting with Online Learning at Carleton University](#)

Carleton University - [Online Interaction to Enhance the Learning of First-Year Chemistry Students at Carleton University](#)

Durham College - [Engaging Students in an Online Course on Wrongful Convictions at Durham College](#)

George Brown College - [Mobile-Assisted Language Learning: Enhancing student learning with mobile phones](#)

Lambton College - [Adapting Hybrid Models for Better Learning – Professors develop and test new models for teaching and learning at Lambton College](#)

Nipissing University - [Providing Access and Flexibility: Innovative learning opportunities for nursing students at Nipissing University](#)

Northern College - [Flexibility in the Design and Delivery of the Mining Engineering Technician Program at Northern College](#)

Ontario College of Art and Design University - [Maximizing Student Learning at the Ontario College of Art and Design University: Getting the Most out of the Learning Management System](#)

Seneca College - [Integrating Facebook and Twitter: Helping Students Learn How to Learn Using Social Media at Seneca College](#)

Trent University - [Supporting Flexibility and Program Completion: Trent University implements a new approach to online learning](#)

University of Guelph - [Student learning through online Peer Evaluation Assessment and Review](#)

University of Ottawa - [e-Marking: Using iPads to deliver feedback on student assignments](#)

University of Ottawa - [iAnatomie: Providing online learning and testing options for Francophone medical students](#)

University of Toronto - [Developing Crowdmark, an Online Collaborative Marking Platform at the University of Toronto](#)

University of Toronto - [Peer Assessment and More with peerScholar](#)

University of Waterloo - [Marking assignments online to improve feedback for students](#)

University of Windsor - [Documenting Learning: Using e-Portfolios in Visual Arts and the Built Environment at the University of Windsor](#)

Wilfrid Laurier University - [Mathematics Online – The Supplementary Module Program for Calculus at Wilfrid Laurier University](#)

Wilfrid Laurier University - [e-Portfolios for Lifelong Learning – Integrating e-portfolios for students in the Faculty of Music at Wilfrid Laurier University](#)

Wilfrid Laurier University - [Encouraging Student Independence: A blended learning model for Organic Chemistry at Wilfrid Laurier University](#)

THEME # 5 – COLLEGE AND UNIVERSITY PLANNING FOR ONLINE LEARNING

College and university plans present online and blended learning as central to student access, flexibility, engagement, and success. To fully take advantage of their potential, wide ranging institutional change and support are necessary.

In the past three years, five-year plans, institutional strategic documents, and plans for technology-enhanced learning at public colleges and universities in Ontario featured online and/or blended learning as central to their mission and future. The goals for adopting these new approaches to education are framed around ideas of student-centred learning, with access, flexibility, engagement, and success as common themes across institutions. The goals and strategies also recognize the integration of online and blended learning requires changes across the institution.

This summary highlights the institutional plans and priorities, described in the [Pockets of Innovation Series](#), that guide the introduction and expansion of online and blended learning at public colleges and universities throughout Ontario, including [Algonquin College](#), [George Brown College](#), [Lambton College](#), [Mohawk College](#), the [Ontario College of Art and Design University](#), [Queen's University](#), [Trent University](#), the [University of Ottawa](#), the [University of Toronto](#), the [University of Windsor](#), and [York University](#). For a number of public colleges and universities, separate Pockets of Innovation outline early and more advanced stages of plan development and integration.

GOALS OF ONLINE AND BLENDED LEARNING

For graded tests in Accounting at [Carleton University](#), students can repeat the tests, responding to randomly generated questions and receiving feedback on their attempts, with the machine choosing the best results. Access to extensive and continually varied practice, supported with correct answers and explanations, is also supported through online math tutoring and similar services. At [Carleton University](#), the resources used for mastery learning in Chemistry are available from a publisher; the modules for Mathematics at [Wilfrid Laurier University](#) were created in-house. At [Durham College](#), online worksheets offer practice as preparation for tests.

INCREASE ACCESS: Increasing student access is a key objective for online and blended learning, especially in large-enrolment courses and those that are compulsory for a number of programs. Students in remote, rural, and Aboriginal communities, from other institutions, international students, as well as those with family, job, and community responsibilities, and those living far from institutions or working shifts are cited as target groups for enhanced access offered through online learning. Online learning is positioned in institutional plans as offering mobility – access to learning anywhere, anytime, and often through a multitude of devices.

ENHANCE FLEXIBILITY: In many cases, public colleges and universities are responding to student demand for increased use of technology for greater flexibility in course offerings and student services. Plans encourage and support the integration of online and blended learning that expands the range of learning methods, content sources,

Institutional plans stress the goal of increasing overall numbers and participation of specific groups of students by offering access through online and blended learning.

Plans position new approaches to teaching and learning and expanded availability of courses and support services as critical to increasing flexibility for students.

class participation possibilities, and strategies for assignments and assessments.

To support enhanced student engagement in teaching and learning, changes in teaching and learning must be accompanied by infrastructural and physical changes.

Public colleges and universities target the graduation of technologically capable and experienced students.

Organizational change takes many different directions depending on the institution involved. Among the common elements addressed in the documents are:

- Quality standards
- Student support services
- Faculty support services
- New resources
- Effectiveness and efficiency
- Infrastructure and physical plant

INCREASE STUDENT ENGAGEMENT: The use of technology to offer students more engaging and participatory alternatives to lecture classes is highlighted in many institutional strategic documents. The plans also acknowledge that extensive support for students and faculty is essential, as well as an information technology infrastructure that facilitates online interaction and knowledge sharing between students and instructors and among students. Physical spaces on campus are to be adapted to support active learning, offering space for class discussion, projects, and problem-solving as part of blended learning models.

FOSTER STUDENT SUCCESS: Institutional plans label online and blended learning as essential to the goal of graduating students who are digitally capable and experienced, able to use their technological skills in the workplace, as well as for community and leisure activities.

INSTITUTION-WIDE CHANGE AND SUPPORT

The implications of online and blended learning for institution-wide change are recognized in the college and university planning and strategic documents. Among the various components of organizational change cited in the [Pockets of Innovation Series](#) are:

- **Quality Standards:** Standards for online and blended course development and presentation, as well as the process for quality assurance, are clearly articulated in plans. The implications for curriculum planning, resource allocation, staffing, autonomy, course ownership, and academic freedom are considered.
- **Student Support Services:** Students need extensive training and resources on how to access and use technology and software, as well as how to apply them for effective learning. Student services, along with registration, financial aid, counselling, and library services, need to be available online.
- **Faculty Support Services:** Faculty need training and support on how to use technology for teaching and learning, software choices, instructional design, and the pedagogical approaches and changes inherent in using online and blended learning. Funding for development and research is also part of many plans.
- **New Resources:** The development and/or integration of resources, such as e-textbooks, mobile learning, open educational resources, simulations, and virtual reality is encouraged, implicating the library, IT, faculty, and other areas of the institution.
- **Effectiveness and Efficiency:** The educational effectiveness and institutional implications of online and blended learning are often researched and analyzed, on a course-by-course and organizational basis. Targets and timelines, such as every student taking one online course before graduation or 20% of time in every program spent online, are established and measured.

- **Infrastructure and Physical Plant:** The technological infrastructure often has to be re-configured and greatly enhanced to support teaching, learning, and administration. Printing services, charging stations, requirements for equipment, technology-friendly class and study space, classrooms that support group learning, and numerous other facility and services are all cited in plans.

In planning for increased online and blended learning, each college and university considers its specific student population, strengths and capabilities, and goals for the future. Arising from this diversity is an organization-wide approach to online and blended learning grounded in student-centred learning, striving to better meet their needs and aspirations.

PUBLIC COLLEGES AND UNIVERSITIES FEATURED IN THIS THEME

Algonquin College – [Digital College: Organizational change for enhanced student learning and engagement](#)

Algonquin College – [Moving Ahead with the Digital College: Mobile learning, open educational resources, and online and hybrid learning at Algonquin College](#)

George Brown College – [Preparing Students for the Future: A Strategic plan for e-learning](#)

George Brown College – [Consolidation and Alignment: George Brown College moves ahead with its Academic Computing Strategy](#)

Lambton College – [Supporting Institutional Change: The Learning Innovation Centre at Lambton College](#)

Mohawk College – [eLearn@Mohawk: Moving to blended learning for student success](#)

Ontario College of Art and Design University - [Adopting a new learning management system](#)

Ontario College of Art and Design University - [Maximizing Student Learning at the Ontario College of Art and Design University: Getting the most out of the Learning Management System](#)

Queen’s University - [Engaging First-Year Students: A Blended Learning Model for Active Learning](#)

Queen’s University - [Strategic Advancement: Moving Ahead with Blended Learning at Queen’s University](#)

Trent University - [Supporting Flexibility and Program Completion: Trent University implements a new approach to online learning](#)

University of Ottawa - [Expanding the Online Course Inventory at the University of Ottawa](#)

University of Toronto - [Online Learning Opportunities for Undergraduate Students at the University of Toronto](#)

University of Windsor - [Testing New Tools to Support Enhanced Online and Blended Learning at the University of Windsor](#)

York University - [Accessibility, Engagement, and Learning: Moving Ahead with Blended Learning at York University](#)

THEME # 6 – FACULTY DEVELOPMENT AND SUPPORT

Faculty and staff at public colleges and universities in Ontario recognize that effective and engaging online and blended learning involves new pedagogies and strategies, focused on student-centred learning. Intensive training, workshops, one-on-one consultation, and online tools are offered by centres for learning and teaching at each public college and university so faculty can design, deliver, and assess successful courses and learning tools.

This summary highlights the myriad of opportunities, highlighted in the [Pockets of Innovation Series](#), offered to faculty and instructors for training, support, and access to resources that facilitate their transition to online and blended learning and teaching.

Faculty development combines new pedagogies, best practices, critical assessment, and collaborative and active learning with opportunities to learn by experience through participating in online and /or blended classes.

The training can be through multi-course programs, a single course spread over a semester, multi-institutional programs, and shorter formats targeted on one technology or a single application.

PROFESSIONAL DEVELOPMENT AND TRAINING: Amid differing approaches to faculty development among institutions, the [Pockets of Innovation Series](#) revealed some consistent principles:

- Blended or online formats are often used for training so faculty experience the learning and technological benefits and challenges their students encounter;
- Faculty are encouraged to consider these new ways of teaching, assess their effectiveness for their courses and adopt the best strategies for their students and content;
- Online and blended learning are not seen as fix-all or appropriate for all courses or students;
- Active, engaged learning by faculty is encouraged, with the training modelling best practices for subsequent teaching; and
- Collaboration and sharing among faculty is facilitated, often resulting in later communities of practice.

Many public colleges and universities offer certificate programs in both online and blended formats, with four to six courses on pedagogy, technology use, instructional design, assessment, and collaboration strategies; these may focus on online and blended learning, as at [Lambton College](#) and [Western University](#), or incorporate them into a broader look at teaching and learning. In some cases, including [Collège Boréal](#) and [La Cité collégiale](#), these programs are mandatory.

Programs may be limited to faculty of one institution, including the program at [Ryerson University](#) re-designed for blended delivery; open to faculty at regional groupings of institutions, such as the program available at [Fleming College](#); and a few, from institutions such as [Centennial College](#) and [Niagara College](#), are available, on a cost basis, to faculty from other institutions. An extensive program is under development at [Carleton University](#) that will be offered as an open educational resource for all institutions to adopt and adapt.

Some institutions offer various levels of training, with introductory modules on theory and basic processes of putting course information online, complemented by more extensive training and support for

converting a course to online or blended delivery. An example is the two programs at [Georgian College](#) - shorter workshops focus on one component of online learning, such as assessment, or introduce new software and apps of particular interest. The [Ontario College of Art and Design University](#) offers presentations by faculty members recommended by students for their effective use of the learning management system. At [Sheridan College](#), a comprehensive portal provides access to resources, beginner and advanced information on the use of digital resources, and faculty training and support.

Training on the use of the LMS is provided for all faculty, on topics from inputting core course information to advanced use of its tools for learning.

As new learning management systems (LMS) are introduced at public colleges and universities, the centres for learning and teaching, such as the one at [Canadore College](#), offer training on the use of the system and all its attributes for course development and management, as well as for assessment and evaluation, collaboration, and communication.

In addition to professional development, some faculty are supported in their online and blended innovations through funding, time release, research support, and, sometimes, secondment to the learning and teaching centre. They, in turn, become emissaries to their departments on the benefits of online and blended learning.

Staff in learning and teaching centres work one-on-one with faculty for course development and assessment.

CONSULTING: Staff in the learning and teaching centres often work on a one-on-one basis with faculty to develop online and blended courses, offering expertise in pedagogy, instructional design, technology use for learning, graphic design, information technology, course assessment and revision, and other skills. [Humber College](#), [Loyalist College](#), and [Ryerson University](#) offer different models of how these services are provided. Faculty are also supported in building their own resources, such as games, simulations, tests, and mobile learning applications. At [St. Lawrence College](#) and [Western University](#), the professional staff is supplemented by students who work with faculty to help them, as was said by one of these student advisors, “to create resources for excellent learning.”

Extensive resources, covering all aspects and applications of online and blended learning, are available through the websites of learning and teaching centres.

RESOURCES: The learning and teaching centre staff create extensive websites with online tools, guides, instructions, and examples, supplemented by links to articles, research, and resource banks at other institutions. For example, [Mohawk College](#) offers templates for course development, shells for development of tests, and sample rubrics for marking, along with information on their completion and use. At other public colleges and universities, depositories of open educational resources, developed at the institution or recommended from other sources, are available. Many of the websites of the learning and teaching centres are open access, including those at [Algonquin College](#) and [Ryerson University](#), making their wide collection of information and aids for online and blended learning available to faculty and instructors everywhere.

Faculty development and support are critical components of the integration of online and blended learning at all public colleges and universities in Ontario. Starting from a consideration of where, when,

how, and, most importantly, for whom online and blended learning can be effective, faculty receive access to courses, consulting, and resources so they can provide students with flexible and interactive opportunities for successful learning.

PUBLIC COLLEGES AND UNIVERSITIES FEATURED IN THIS THEME

Algonquin College – [Moving Ahead with the Digital College: Mobile learning, open educational resources, and online and hybrid learning at Algonquin College](#)

Canadore College – [Offering Choice: Providing students with options for access to learning](#)

Carleton University – [Online Interaction to Enhance the Learning of First-Year Chemistry Students at Carleton University](#)

Centennial College – [Reflective Practitioners: The Certificate Program in Teaching and Learning in Higher Education at Centennial College](#)

La Cité collégiale – [Moving Online: Meeting student learning needs through online and hybrid courses](#)

Collège Boréal – [Matching Pedagogy and Technology: Providing student choice for effective learning at Collège Boréal](#)

Fleming College – [Before, During, and After Class: Online resources for students and faculty](#)

Georgian College – [Faculty Training: Two-stage learning for faculty on designing and developing online learning courses](#)

Humber College – [Serving Students and Faculty: The Centre for Teaching and Learning at Humber Institute of Technology and Advanced Learning](#)

Lambton College – [Supporting Institutional Change: The Learning Innovation Centre at Lambton College](#)

Loyalist College – [Virtual Learning Environment: Developments in virtual reality for learning at Loyalist College](#)

Mohawk College – [eLearn@Mohawk: Moving to blended learning for student success](#)

Niagara College – [Learning by Doing: Using a hybrid course for faculty learning about hybrid course development](#)

Ontario College of Art and Design University – [Maximizing Student Learning at the Ontario College of Art and Design University](#)

Ryerson University – [Re-Designing the Instructional Skills Workshop in a Blended Format for Faculty Development at Ryerson University](#)

Ryerson University – [Setting the Stage for Student Success: Digital Education Strategies at The G. Raymond Chang School of Continuing Education](#)

St. Lawrence College – [Students Helping Faculty Implement Hybrid Learning at St. Lawrence College](#)

Sheridan College – [Focusing on Faculty Development for Digital Teaching and Learning at Sheridan College](#)

Western University - [Supporting Online Teaching through Online Learning at Western University](#)

Western University - [Supporting Technology Integration – The Instructional Technology Resource Centre at Western University](#)

THEME # 7 - INNOVATIVE ONLINE SUPPORT SERVICES FOR STUDENTS

Student achievement is facilitated by a wide range of online services supporting students in the development of academic and personal skills essential for post-secondary success.

Student achievement at Ontario's public colleges and universities is facilitated not only through the provision of quality online programs and courses, but also by delivering a wide range of online services targeted at supporting the development of academic and personal skills essential for post-secondary success. The development of these tools is undertaken by faculty and instructors, as well as staff in libraries, student support centres, and offices for teaching and learning excellence.

The principles underlying these developments are:

- That students require resources beyond those offered in course content in order to be effective learners; and
- That the flexibility and accessibility of online delivery best responds to students' demanding lives and schedules.

The resources developed by professors across the province for online student support differ in content, approach, and complexity, but they all address needs for support as independent and successful learners.

This summary highlights the trends from the [Pockets of Innovation Series](#) describing student support services offered online.

Just-in-time resources provide guidance, with infinite patience, for those uncomfortable or unfamiliar with technology.

LEARNING HOW TO USE TECHNOLOGY EFFECTIVELY: Developers recognize that not all students are so-called digital natives and some require assistance with adopting technology, especially for academic purposes. To respond to this, resources from short videos to full modules demonstrate how to access key services such as registration, financial aid, e-mail and other communication systems, as well as how to maneuver through the learning management system and the course materials. Resources available at [Algonquin College](#) and [Fleming College](#) provide examples of these services for students. Participation in discussion boards, online test-taking and assignment delivery, and the use of search engines and various media sources are now essential skills and practical online tools guide students through their effective use. Just-in-time resources provide guidance, with infinite patience, for those uncomfortable or unfamiliar with technology.

Students have access to extensive resources they can consult in their own time and pace to address learning challenges.

LEARNING HOW TO BE A SUCCESSFUL STUDENT: Public colleges and universities invested considerable effort in preparing resources to help students with skills for successful learning, such as research, writing, presentation development, time management, note-taking, and studying. [Niagara College](#) provides a full course, offered for credit, to help students develop these skills. An example from [Queen's University](#) describes how these skills are integrated into the design of courses. At [McMaster University](#), modules address both information and geospatial literacy. Rather than taking part in a one-time, face-to-face presentation on the topic, students have access to extensive sources they can consult at their own time and pace to address learning challenges. Students in Literacy and Basic Skills Programs at [Confederation College](#), offered online

in synchronous format, work through resources and exercises on an individual basis, aided by the constant online presence of the instructors for support, clarification, and problem-solving.

Rubrics that clearly state and exemplify expectations, such as those used at [Nipissing University](#), offer guidance and points of reference to improve student performance and confidence. Individual counselling and program pathways, such as those offered at [Northern College](#), support online learning success. At [Cambrian College](#), online tutoring supplements the face-to-face service, making it available evenings and weekends to students at home.

Many of these tools are accessible to students from any institution as they are openly available on public college and university websites, including the [University of Ontario Institute of Technology](#) and [York University](#). They may also be organized for multiple uses, whether by students working on their own, students working with staff in the student centre, or for faculty to integrate into course content or assignments. For some specific applications, including for students preparing for, and in, co-op placements at the [University of Waterloo](#) and the [University of Ottawa](#), resources also focus on workplace readiness and skills, such as project management and collaboration.

Faculty and instructors offer online office hours, such as the use of Skype at [Algoma University](#), often in the evening so they can work through problems with students while they are studying rather than waiting until the next class. As an additional tool, frequently asked questions are put into a database, with their answers, for all students to consult, providing another source of immediate support.



Students at all levels of study need additional practice and support throughout their courses.

SUPPLEMENTARY LEARNING: Innovative responses to the need for supplementary learning address the common challenges of students arriving from secondary school unprepared for the content demands of first-year mathematics, chemistry, and other subjects and students at all levels of study who need additional practice and support throughout their courses. Examples are found at [Carleton University](#), [Queen's University](#), and [Wilfrid Laurier University](#).

Topic-specific modules are developed, offering review and practice of skills students are expected to have at course entry or develop through their courses. The modules provide not only questions and answers, but also analysis of individual errors and links to question banks providing additional practice in areas of weakness. Research conducted on the success of students who work through these supplementary tools demonstrates significant improvements in grades.

[Ryerson University](#) offers a Digital Media Zone that provides students with support in developing digital and business skills by supporting start-up ideas.

Language learning also features widely-used supplementary learning tools. Mobile language learning is effective and popular with English-as-an-additional-language students, often involving exercises that send them out into their communities to converse in order to get the necessary

information. [George Brown College](#) uses this approach in its blended learning courses. Other online tools provide vocabulary and writing support to Francophone students living in bilingual communities. The [University of Ottawa](#) and [Carleton University](#) provide online support for Francophone and French-as-a-second language students. These, along with similar tools, may not be tied to specific courses or assignments but serve a broader purpose of ongoing support.

Links to a wide variety of sources expands not only points of view but also style of presentation.

LINKING TO OUTSIDE SOURCES:

Faculty and Instructors often provide links to materials from a much wider variety of sources than would be accessible in a classroom or within required readings, thereby expanding not only points of view but also styles of presentation. The supplementary use of YouTube videos, materials provided by publishers, sections of Massive Open Online Courses (MOOCs), photographs, and original archives allow students who prefer visual, sequential, or other approaches to learning to find what best suits their learning needs.

The key points the educators make about the importance of online provision of student support services are that the resources and services must be accessible when and where the students need them – the just-in-time factor – and that they accommodate the speed, repetition, choice of emphasis, and preferred learning approach each student adopts for optimum learning.

PUBLIC COLLEGES AND UNIVERSITIES FEATURED IN THIS THEME

Algoma University - [Moving to Digital: Introducing online resources for student learning and research](#)

Algonquin College - [Moving Ahead with the Digital College: Mobile learning, open educational resources, and online and hybrid learning at Algonquin College](#)

Cambrian College - [Reaching Out to Students at Home: Online Tutoring at Cambrian College](#)

Confederation College - [Synchronous, Interactive, and Individual - Online learning opportunities for adults at Confederation College](#)

Carleton University - [Improving Student Success in Financial Accounting with Online Learning at Carleton University](#)

Carleton University - [VidéoTech: Creating and sharing online learning materials for French-as-a-second-language students by Carleton University and the University of Ottawa](#)

Fleming College - [Before, During, and After Class: Online resources for students and faculty](#)

George Brown College - [Blended Courses for Practical Language Learning at George Brown College](#)

McMaster University - [Expanding Literacy: Online resources in information and geospatial literacy for students](#)

Niagara College – [Commitment to Students and Excellence: Developing self-directed learners through iLearn at Niagara College](#)

Nipissing University – [Community of Learners: Supporting and assessing online communications with Faculty of Education graduate students at Nipissing University](#)

Northern College – [Mining technician at Northern: Flexibility in the Design and Delivery of the Mining Engineering Technician Program at Northern College](#)

Queen’s University - [Integrating Information Literacy into Course Design and Delivery: Engineering students learn about information search and management as a part of professional engineering skills](#)

Queen’s University – [Developing a Blended Learning Course for More Engaged Learning in Calculus at Queen’s University](#)

Ryerson University – [Digital Media Zone: An incubator for business development and learning for digital entrepreneurs](#)

University of Ontario InSTITUTE of Technology - [nool.ca: Providing support via the web for math and writing skills for first-year students](#)

University of Ottawa - [Beyond the Classroom: Providing student support services through online resources for learning](#)

University of Waterloo – [Skills for the Workplace: Professional development for co-op students on work placement at the University of Waterloo](#)

Wilfrid Laurier University – [Mathematics Online – The Supplementary Module Program for Calculus at Wilfrid Laurier University](#)

York University - [SPARK, the Virtual Learning Commons: An online resource for academic literacy at York University](#)

ABOUT CONTACT NORTH | CONTACT NORD

Five Core Services for Students, Faculty & Instructors, Colleges, Universities, Literacy and Basic Skills and Training Providers:

1. Supporting 4 million Ontarians

Over 4 million Ontarians in [600 small, remote, rural, Aboriginal and Francophone communities](#) across the province can participate in online and distance programs and courses from Ontario's 24 public colleges, 22 public universities and 250 literacy and basic skills and training providers without having to leave their community by accessing the services available from Contact North | Contact Nord.

Staff at [112 local online learning centres](#) across the province provides students and prospective students with information on online and distance programs and courses from Ontario's public colleges, universities and literacy and basic skills and training providers and assistance with registering in the program or course. Students can also participate in their classes by using the web conferencing, videoconferencing and audioconferencing platforms available at each centre. Full technical support and assistance are available from the local staff in each centre.

Students have free use of computers with high-speed Internet at local centres to connect to their online courses and complete their course work.

Students have a quiet place to complete their course work, link with other students in informal support groups and write supervised exams.

There is no cost for students to use the local online learning centres.

2. [studyonline.ca](#)

Information on available online and distance programs and courses and student support services from Ontario's public colleges, universities and literacy and basic skills and training providers is available 24/7 at [studyonline.ca](#).

In 2014, [studyonline.ca](#) supported 134,000 visitors.

3. e-Channel Portal

Information on available [literacy and basic skills training](#) and student support services from public literacy and basic skills providers is available 24/7 on the e-Channel Portal at [e-channel.ca](#).

This Portal has an average of 1,100 unique visits per month.

4. [teachonline.ca](#)

[teachonline.ca](#) provides up-to-date information for faculty and instructors teaching online and at a distance with [trends and directions, tips and tools](#), information on [training and professional development programs, game changers](#) in online and distance learning and the [Pockets of Innovation Series](#) that showcases 125 examples of innovations and developments taking place at Ontario's public colleges and universities.

In 2014, [teachonline.ca](#) supported 129,000 unique visitors.

Information on new postings and resources on teachonline.ca is also communicated through the weekly [Online Learning News](#), which is distributed to 10,000 e-mail subscribers on a bi-weekly basis.

5. Student Information Hotline

Students and prospective students can connect live via phone, e-mail or chat with staff who provide information on online and distance programs and courses, assistance with the registration process and other student services via Contact North | Contact Nord's Student Information Hotline at **1-877-999-9149**.

CORPORATE INFORMATION

- Established by the Government of Ontario in 1986.
- Incorporated as a not-for-profit corporation headquartered in Thunder Bay and governed by a volunteer [Board of Directors](#) comprised of individuals from Ontario's public colleges, universities, school boards, Aboriginal communities, Francophone communities and public members.
- Receives annual operating and capital funding of \$10 million from the Government of Ontario through the [Ministry of Training, Colleges and Universities](#) continuously since 1986.
- Provides direct services and supports in English and French to students and prospective students and Ontario's 24 public colleges, 22 public universities and 250 literacy and basic skills and training providers.
- Generates and supports 40,000 student registrations annually for Ontario's 24 public colleges, 22 public universities, and 250 literacy and basic skills and training providers, an increase of 150% over the past 5 years.