# Discussion Paper A Case for Change: eLearning Integration at York University

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#### Introduction

In the Spring of 2011, the Academic Technology Advisory (ATA) Group was established to provide eLearning advice and guidance to University executive leadership on the use of technology in enhancing the quality of teaching and learning and the overall academic experience of York's students.

The first task that this group was mandated to undertake was the development of high level plans and strategies to guide the innovative use of technology in advancing the University's strategic priorities. The work of the ATA Group will be shared with the collegium and final recommendations presented to the Provost during the winter of 2013.

This discussion paper is a work in progress. It will be used by the ATA Group as a common base of key information to guide and frame its deliberations. New information, research and data will be added as deemed appropriate. The paper will serve as a tool for consultation with Faculties to encourage informed discussion about the use of technology to enhance learning.

The current work of the ATA Group will take into consideration the recommendations that were made previously as part of the White Paper process. In 2010, a working group had been established by the Academic Vice-President & Provost with the goal of developing an eLearning business case to guide the implementation of directives from the White Paper. A document entitled an "E-Learning Business Case for York University" (June 2010) was produced. This business case has provided valuable direction for the current deliberations.

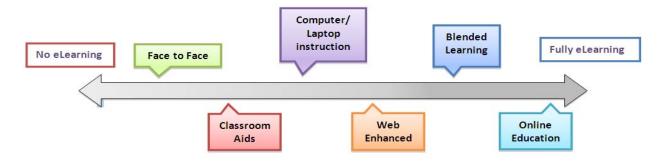
It should be noted that the context within which the ATA Group will be making its recommendations is grounded in the belief that the use of technology will only make a positive difference in the learning experience of the student if the pedagogy is sound. In other words, if one adds an eLearning strategy to a course or degree program that has not been built on well-developed learning outcomes, it is unlikely that eLearning tools (or any learning enhancements) will be effective. Lameras, Levy, Parskais and Webber (2012) found in their investigation of blended learning using virtual learning environments, that pedagogical beliefs and circumstances underpinning face-to-face teaching are more influential in shaping approaches to blended learning than the use of technology. The relationship between sound pedagogical course design and the use of technology enhanced learning is central to all that follows.

The ATA Group also understands that any comprehensive eLearning approach must be understood and embraced by the Faculties as a whole, as well as individual faculty members. Informed decisions will need to be made about the 'fit' between the degree program and the integration of web enhanced, blended or online learning strategies. Appropriate support must be provided through the provision of hardware, software, technical assistance and professional development. To that end, a comprehensive, systematic and learner-centered perspective will guide the deliberations of the ATA Group in its recommendation formulation.

# **Establishing Common Language for eLearning**

The following operational definitions have been utilized to facilitate the reading of this discussion paper.

# **eLearning Continuum (adapted from Bates & Poole 2003)**



Term	Operational Definition					
eLearning	The development of knowledge and skills through the use of					
	information and communication technologies to support interactions					
	for learninginteractions with content, learning activities and with					
	other people					
Face-to-face	"Traditional" lecture format					
Classroom aids	A traditional lecture format supplemented by the use of presentation					
	or online materials such as PowerPoint slides, videos and "clickers",					
	etc.					
Computer labs/laptop	Face-to-face instruction in a setting where every student has access to					
instruction	a computer (lab or personal laptop) and the computer applications or					
	online materials are integral to the instruction.					
Web-enhanced	Face-to-face lecture format where learning is supplemented by web					
learning	materials, resources or activities. Courses adopting this format will					
	use a learning management system (LMS) such as Moodle to make					
	lecture notes and recordings available, provide links to resources,					
	quizzes, discussion forums, etc. The normal face-to-face instruction					
	time remains the same in these courses despite the addition of a web					
	component.					
Blended learning	Refers to courses where a required component of the course is					
	delivered online and the face-to-face time between instructor and					
	students is reduced accordingly. Typically, a course is considered					
	"blended" if the online component varies between 30% and 80% of					
	the total course time. Another term often used interchangeably with					
	blended is 'hybrid'.					
Online education	Defined as instruction where a course is delivered in a way such that					
	students do not have to physically attend classes (may be					
	synchronous or asynchronous online "classes"). Typically, 100% of the					
	instruction is delivered via the Internet; however, under certain					

Term	Operational Definition
	circumstances there may be some face-to-face at the beginning or
	end of sessions/programs. Another term often used interchangeably
	with online are 'distance' or 'fully online'.

#### Why We Need to Pay Attention to eLearning

Dramatic technological developments in the past 30 years have resulted in a rapid change in society. Just 20 years ago email was rare, mobile phones were prohibitively expensive, libraries held all books and periodicals and university learning was firmly in the hands of the professors.

In the second decade of the 21<sup>st</sup> century knowledge is distributed and accessible in unprecedented ways. Crowd sourcing, democratized knowledge creation and multiple ways of knowing are commonplace. Students entering post secondary education are accustomed to finding their own resources, sharing ideas online and embracing new ways of interacting with their world.

A time travelling professor from 1982 would be bewildered by all this change. However, s/he would feel right at home in most classes at York University. Typically classes continue to follow the format of a one hour didactic lecture. A disconnect exists between our current situation and the potential – the potential to empower students to take control of their studies, to develop communities of learning and to harness the power of technology. In the past graduates expected to enter a profession and to stay in it for life. This is no longer a universal expectation. Today's graduates need to be nimble, able to seize opportunities, flexible in their expectations.

In some classes at York students do benefit from the latest developments in technology, use the internet to discuss issues with students in other countries, access resources in the world's best libraries and use computer generated models to test theories and explore ideas. However, the imaginative and creative use of technology is not the norm. It is the exception.

There are many barriers to change ... resources, confidence, motivation and inertia to name a few. Faculty members need support, time and resources to bring about transformative change. However, for those that are daunted by the change, we need to consider the cost of not changing. In a recent report entitled EDUCAUSE Study of Undergraduate Students and Information Technology (2012), the technology ownership, use patterns, and perceptions of technology among over 100,000 undergraduate students were studied. It was concluded that educators and institutions "need to balance strategic innovation [using technology] with solid delivery of basic institutional services and pedagogical practices and to know students well enough to understand which innovations they value the most" (2012: 4). Students were found to have strong and positive perceptions about how technology benefits them....and they assume that it will be part of their learning environment.

Other Universities with whom York competes for students are active in developing their own eLearning initiatives. In the summer of 2012 the Ontario Ministry of Colleges, Training and Universities issued a request for 'Strategic Mandate Agreements' from all universities and colleges in Ontario. These statements were to address the top priorities of each institution. The University of Toronto indicated that it is currently part of Coursera and will offer a number of

"massive, online, open courses (MOOCs). U of T also shared that it currently offers 90 for-credit courses online and that the institution is planning to offer 30 more online courses within the next 3 years. Ryerson University currently offers 282 degree courses and 186 non-degree courses via online and distance education. Ryerson is planning to develop 120 new courses online for each of the next 5 years.

If we don't embrace eLearning we may be left behind. Students will be recruited and retained by institutions that allow them to continue accessing the technology enhanced learning approaches that they utilized in high school. If we fail to attract the best students, this will not only affect York's reputation but will also impact directly on recruitment, retention and our ability to attract research dollars.

## **Technology Enhanced Learning as an Institutional Priority at York**

The University's Academic Plan (2010 - 15) and the Provostial White Paper (2010) both cite the need for growth in eLearning.

As one of its 11 priority benchmarks, the Provostial White Paper calls for York to "improve accessibility for students by significantly expanding online delivery of courses and programs as part of its efforts to enhance learning through the use of technology" (White Paper Companion, 2010: 14). Thus the paper sets up a two-part goal for York, one specific and one more general. The specific goal is to significantly expand online delivery; later the paper says that this may be accomplished either through online education or blended courses. The paper urges that the expansion of online delivery will be undertaken in a "planned, deliberate, coordinated institutional manner" (Companion, 2010: 41), so that rather than simply responding to isolated faculty interests, efforts should be made to identify strategic programs where there will likely be significant demand for blended or online offerings.

The rationale offered for expanding the use of technology enhanced learning is largely to make learning more accessible to York's large body of commuting students and to respond to the needs of part-time mature working students. Online delivery is also seen as a way to respond to enrolment pressures without having to build more physical classroom space. The more general part of the goal calls for York to step up its efforts to enhance the teaching and learning environment through technology. While accessibility is still part of the rationale for this, the paper also discusses the potential for technology to improve student engagement and learning and respond to the changing expectations of today's net savvy generation of students.

The University Academic Plan (2010) refers to the need to demonstrate our commitment to academic quality, student success and engagement and outreach in relation to teaching and learning by "supporting innovative and flexible curriculum delivery through online and hybrid [blended] courses, as well as other elements of technology enhanced learning" (UAP, 2010: 8).

Becoming a leader in elearning and online technology is an enormous opportunity for York to create unparalleled learning environments for commuter students and to turn what some might see as a liability into a position of strength.

## **The Forces Driving Change**

#### Public schools are now using technology extensively

The Ontario Ministry has developed an eLearning strategy for students from K-12.

"Through blended learning, K-12 students can access high-quality course materials, course calendars, and assignments during and outside school hours. Students can also take part in face-to-face lessons and communicate with their teacher and classmates using a suite of secure online tools inside the password-protected LMS. These tools help students learn or review key concepts, stay organized, show what they have learned, submit assignments, track their achievement, and communicate with others" (Ontario Ministry of Education, 2012).

It is increasingly certain that most students entering post-secondary education have been preexposed to eLearning technology and come with expectations that universities will provide a variety of integrated eLearning options.

#### Quality eLearning strategies can improve learning

Over the past decade many faculty members have experimented with supplementing their courses with **web-enhanced** technologies. These efforts include: making available course materials, readings, PowerPoint slides, or web links on a course website or within a course managements system such as Moodle, Blackboard or WebCT; adding online discussions to supplement in-class discussions; using wikis for students to collaborate online; and making available audio or video recordings of lectures for students to download and review.

In a recent study on lecture recordings and student performance, Williams, Birch and Hancock (2012) concluded that: lecture recordings should only be used as a supplement to physical lectures; students attending face to face lectures received benefit from the additional use of the lecture recordings in contrast with those that did not attend lectures; and, overall, lecture recordings are valuable supplementary tool for students. In a survey involving 1170 York students conducted by the Institute for Research on Learning Technologies (2010), it was found that 75% of the students felt that the use of lecture recordings helped them to better stay on top of course material and 68% agreed that their depth of learning in the course had been improved.

Generally speaking, web-enhanced initiatives cannot be expected to increase overall student achievement significantly as compared to courses where these technological aids are not used; their advantages are more qualitative. Typically they serve to increase students' motivation, satisfaction, and engagement in their courses. Web-enhanced approaches provide students with access to course content when they miss lectures, allow opportunities to interact especially in large cohorts, with the instructor and their peers beyond the walls of the classroom, and review content before exams.

Looking beyond web enhanced strategies, **blended learning**, which, typically involves the integration of traditional face-to-face instruction with online instruction (Garrison & Vaughan,

2008; Hsu, 2011) has been found to produce positive results for students such as enhancing the experience of learning (Davis & Wong, 2007), retention (Anagnostopoulou & Paramar, 2008), cost and time efficiencies (Singh, 2003), and better grades (Means et al., 2009).

The University of Central Florida's (UCF) extensive experience with **blended learning** suggests that on average, blended courses have higher success rates and lower withdrawal rates than their comparable face-to-face courses and online courses (Dziuban, Hartman, Juge, Moskal, & Sorg, 2006). Additionally, the majority of faculty teaching in those courses at UCF indicated that more and higher quality interaction occurred in their blended courses than in their comparable face-to-face sections. Owston, Garrison, and Cook (2006) reported in case studies of blended learning carried out at 8 Canadian universities, including York, students liked that blended learning provides scheduling flexibility and varied learning opportunities, while maintaining traditional classroom experiences such as in-class discussion. Both faculty and students in the study felt that the online component of blended learning encouraged the development of critical thinking skills, and faculty found that they got to know their students better as individuals in blended courses than they would have in traditional lectures. Moreover, Owston et al. (2006) found high levels of student satisfaction with the blended course experiences.

Blended and online courses have been found to provide at least an equivalent learning experience to face-to-face courses (Dell, Low & Wilker, 2010). A meta-analysis of empirical studies comparing learning in face-to-face and **online** courses found that "students who took all or part [e.g., blended] of their class online performed better, on average, than those taking the same course through traditional face-to-face instruction" (U.S. Department of Education, 2009, p. xiv). Similar results slightly favouring online courses were reported earlier by Twigg (2003). She reported that student learning improved in 20 of the 30 online courses she studied compared to the former versions of the courses, while the rest showed no significant difference.

Thus, research suggests that students can achieve at least as well in web-enhanced or online courses and possibly better in blended courses than their counterparts in face-to-face courses. Moreover, student satisfaction is generally high in online and blended courses. The one area where online courses seem to show weakness is that dropout rates tend to be higher as they typically require more motivation and self-discipline to succeed. Therefore, online courses could be problematic for first year students entering university directly from high school as they may not have matured sufficiently to cope with the independent study required of this kind of offering.

Finally, it is worth repeating the observation made earlier in this document that the underlying pedagogy, and quality of instruction are far more important than the mode of course delivery. As one research study concluded — "the platform or the medium (online vs. face-to-face) is not as important as the instructional strategies employed" (Dell, Low & Wilker, 2010). A high quality learning experience can be achieved across the eLearning continuum, if the use of technology is well matched with learning outcomes and student needs.

#### eLearning strategies provide students with greater access and flexibility

There is no question that the web has opened the door to higher education for students who choose not to or are unable to attend traditional face-to-face classes due to work, finances, distance or other barriers. According to recent statistics, in the USA more than 29% of higher

education students took at least one online course during their fall semester in 2009; a 21% increase over the number reported in the previous year (Allen & Seaman, 2010).

Comprehensive online enrolment statistics for Canada are not readily available. Statistics Canada reported that approximately 1.5 million adults 18 years and older used the Internet in 2005 for "distance education, self-directed learning, or correspondence courses." The Canadian Virtual University (CVU), an association of nine Canadian universities specializing in online and distance education, lists over 300 degrees, diplomas, and certificates and 2,000 courses offered by its members via "online and distance education." Athabasca University, the largest member of CVU has some 38,000 students enrolled in 900 courses (7900 full load equivalents) in more than 50 undergraduate and graduate programs. It is to be noted that Athabasca has more students from Ontario than it does in its home province of Alberta (Contact North Report, 2012).

In a recent report entitled *Educated Reform: Striving for a higher quality of education at Ontario Universities* (2012) released by the Ontario Undergraduate Student Alliance (OUSA) the expansion and enhancement of online learning is strongly supported for two reasons. The first is that online learning will help to meet the needs of lifelong learners and non-traditional students, who are currently entering the post-secondary system in greater numbers. It was pointed out that these often mature students have jobs and families or live in communities without universities nearby. Secondly, the report stresses the need to create a truly mobile post-secondary education system. "Offering online versions of current university courses would allow students studying at a particular campus, or not studying on campus at all, to choose courses from across the Province. An oft-forgotten fact is that online learners are most often students studying on-campus. For example, at the University of Waterloo's Centre for Extended Learning, 71 per cent of students taking online courses study on-campus as well" (OUSA, 2012:62).

As evidenced in the profile of our York students below, approximately half of York's student population spends on average 80 minutes a day commuting to and from campus. Offering blended or online courses would reduce the amount of time students would need to spend commuting, saving both time and money. Even while commuting, students can be listening to their lectures on their laptops or mobile devices. The challenge is to ensure that the students who take advantage of these courses have the information and communication technology support that they need to create virtual social and learning communities keeping commuter students more actively engaged in campus life and their own learning, supporting their academic success generally.

#### Profile of York's Student Population (White Paper Companion, 2010: 37)

- 80% of our students are drawn from the Greater Toronto Area (GTA)
- 45% of our students identify as visible minority (the three largest groups within that 45% are South Asian 31%, Chinese 24% and Black 11%)
- 64% of our first-year students live at home with their parents
- almost half our students commute more than 40 minutes each way
- 60% of our first-year students work off campus an average of 16 hours per week
- many of our students work long hours because they are debt averse
- 50% of our incoming students are first generation with parents who see education as a means of enhancing economic prospects

undergraduate times to completion are longer than the provincial average

York has a large population of over 9000 mature students (defined as 25 years of age or older) who could take advantage of a broader menu of eLearning approaches. eLearning provides flexibility for students to learn at their own pace at any stage in the lifespan—thereby fostering positive attitudes about the value of lifelong learning (Canadian Council on Learning, 2009).

Appropriately designed technology can also help narrow the gap for students with disabilities, allowing these students to access course materials in a variety of ways that better suit needs and lifestyles. According to York's Counseling and Disabilities Services, approximately 2500 students with disabilities are currently registered with them and it is anticipated that the number of students with disabilities enrolled at York is much higher than this.

#### <u>eLearning strategies benefit</u> faculty members

While studies addressing elearning tend to focus on the benefits for students or for the university as a whole, there is evidence of direct benefits for faculty (http://www.jiscinfonet.ac.uk/publications/camel-tangible-benefits.pdf).

Benefits that are of particular relevance to faculty members include:

- increased job satisfaction for example use of effective online assessment can reduce the time taken by administrative duties freeing up more time for engagement with students, and the provision of immediate formative feedback improves learning encouraging deep rather than surface approaches;
- involvement with eLearning projects can lead to internal and external recognition of teaching achievement;
- increase in efficiency students learn more effectively with well-designed online resources than poorly designed traditional approaches;
- Online resources help in the avoidance, detection and management of plagiarism; and
- eLearning can assist in the management of large classes.

Garrison (2008) argues that eLearning goes beyond merely offering another learning technology as it has the potential to transform the educational transaction and create new forms of communities of inquiry, thus representing a radical change in the way we approach teaching and learning in higher education.

Without doubt there needs to be strong institutional support for course directors to transform their courses. The time and effort required is substantial and, for many, the learning curve involved with matching pedagogy with technology is daunting. In order to create an environment that encourages the testing and implementation of technological learning tools, an institution must provide faculty members with the support and time that they need to create their own fully-interactive learning environments or to customize a course that has been created by someone else. A number of faculty members have taken advantage of the Academic Innovation Fund to explore new approaches and develop prototypes. We need to encourage

more of this innovation in environments that have the appropriate levels of human and technological support.

#### Status of eLearning in Higher Education

In their book *Academic Reform* authors Clark, Trick and Van Loon (2011) reflect on policy options for undergraduate education in Ontario and the relatively slow pace of change in adopting technologies in teaching and learning, particularly relative to the sweeping changes predicted in the early years of the Internet. They concluded that "it would be wise for University leaders to view technological innovation as an opportunity for improving the quality and cost effectiveness of undergraduate education, recognizing that some in their institutions will, perhaps understandably, continue to view technological change as a threat to the established ways of doing things (p. 27)."

A recent report (2012) by Jan-Martin Lowendahl, an analyst with the information technology research firm Gartner, described the potential impact of emerging trends in higher education: "We are starting to see more concrete signs of a viable set of technology-based capabilities that is enabling fundamental change in the education ecosystem. We identify this as the emerging trend of digitalization, which has the ability to fundamentally change the institutional "business model" for early adopters. This digitalization trend includes "technologies" such as adaptive learning, affective computing, big data and massive open online courses (MOOC). The risks of moving toward digitalization are still high, but so are the stakes for many institutions" (Lowendahl, Gartner, 2012: page 3). What is certain is that technology itself is no longer a significant barrier to new, innovative approaches to educational delivery - but what changes will best serve our students?

In the 2010 Speech from the Throne and in the 2010 Budget, the Ontario government announced its plan to establish an Ontario Online Institute (OOI) as part of the Open Ontario Plan. More recently the Council of Ontario Universities (2012) released a report that outlined its plans to create an 'Ontario Universities Online' entity which would serve to assist universities with the collaborative development of and support for blended and online courses. Although, in theory, collaboration seems to make sense, the relationship between these two initiatives is unclear and the challenges facing the implementation of either approach are large.

The Ontario government conducted a survey of colleges and universities in the spring of 2010. The survey asked colleges and universities to report on three measures of Ministry funded activity in 2008-09. It was noted that of the 23 universities that reported, only 14 had specific eLearning plans, although 18 mention eLearning as part of the university's overall strategic plans. Of the 24 colleges that reported, 18 had specific eLearning plans and 17 included it as part of the university's overall strategic plan.

The results of the survey indicated that colleges have more eLearning options than universities. Universities in central Ontario (including York) had the least amount of online course offerings in comparison to other regions of Ontario. Blended learning (referred to as hybrid in the survey where 50% or more of the course is offered online) provided greater scheduling flexibility to on campus students, incorporating more innovative delivery options than traditional classrooms, offering greater interactivity and accommodating different learning styles. Universities provided substantially more blended offerings than colleges.

In the Ontario government's 2012 discussion paper entitled *Strengthening Ontario's Centres of Creativity, Innovation and Knowledge,* technology enabled learning is cited as a key potential opportunity to meet expected growing demand for post-secondary education and enhance access to education. Some of the benefits cited included: the potential to increase access for all learners, especially those prevented from attending in-class education as a result of certain barriers such as financial, geographic, physical, family- related, or work-related; and to support improvements to the teaching and learning process.

As reported by Contact North (2012), there are no systematic data for the number of students studying online in Canada. Each provincial and territorial Ministry is responsible for collecting its own set of data. The report's authors estimated that at any one time there are in Canada between 875,000 and 950,000 registered university and college students (approximately 92,105 – 100,000 full-time students) taking an online course.

Contact North (2012) identified six major barriers to the development of online learning in Canada.

- 1. The absence of broadband technologies in larger areas of Northern Canada, particularly in Aboriginal communities.
- 2. The digital divide and the lack of digital knowledge of both some students and the professoriate.
- 3. The lack of strategic focus on online learning in some post-secondary institutions
- 4. The poor design and quality of some early stage online courses and the low level of student engagement these engendered.
- 5. The lack of investment by some governments and institutions in instructional design, faculty capacity and infrastructure.
- 6. Difficulties in inter-institutional cross-provincial credit transfer, especially in Ontario.

It seems clear that both the government and key influencers would like universities and colleges to increase their use of technology enhanced learning. What is unclear is how best to do this.

## **Future Trends for eLearning in Higher Education**

#### Massive Open Online Courses (MOOC)

McAuley, Steward and Cormier (2010) define a MOOC as "an online course with the option of free and open registration, a publicly shared curriculum, and open-ended outcomes. MOOCs integrate social networking, accessible online resources, and are facilitated by leading practitioners in the field of study. Most significantly, MOOCs build on the engagement of learners who self-organize their participation according to learning goals, prior knowledge and skills, and common interests. The term came into being in 2008, though versions of very large open online courses were in existence before that time" (2010: 10).

The original MOOC course was designed by George Siemens. The course was called "Connectivism and Connective Knowledge" presented to 25 tuition-paying students at the University of Manitoba in addition to 2,300 other students from the general public who took the online class free of charge (Wikipedia). By fall 2011, two Stanford University professors delivered a Stanford caliber university course on artificial intelligence to more than 50,000 concurrent students world-wide. Since then several other forms of MOOC course platforms have

developed such as Coursera, Udacity and EdX. These have become contenders in post – secondary education funding model. Although all MOOCs are free, Coursera and Udacity have a commercialized business model referred to as the "freemium" model. Currently the MOOC courses are not recognized for credit at any institutions participating in offering these types of courses. However models are being developed where by students will be able to purchase certificates of completion and employers will be able to access and potentially hire students who complete these courses.....thus by-passing traditional university accreditation processes.

#### The Flipped Classroom

In the past couple of years the term "flipping the classroom" has come to some prominence. The notion of the "flip" is based in the concept of switching or flipping activities done in the classroom. This would involve moving lectures outside of class time, typically in the form of lecture recordings, and using the in-class time for engaging students in work that is associated with the hands-on application of theory. It is a version of a blended learning approach.

The Educause Learning Network Initiative describes the flipped classroom as follows. "The notion of a flipped classroom draws on such concepts as active learning, student engagement, hybrid course design and course podcasting. The value of the flipped class is in the repurposing of class time into a workshop where students can inquire about lecture content, test their skills in applying knowledge, and interact with one another in hands-on activities. During class sessions instructors function as coaches or advisors, encouraging students in individual inquiry and collaborative effort" (http://net.educause.edu/ir/library/pdf/ELI7081.pdf).

#### Other Trends...

In an article by Bates (2012) entitled *e-learning outlook for 2012: will it be a rough ride?* He identified a number of future trends including the following.

- Tablets (iPads, Kindles, Aakashes, etc.) will become a regular component of teaching and learning in many institutions expanding to mobile applications outside the campus.
- Learning analytics access to data for instructors, administrators and even students about factors that influence their learning - will enable faculty to identify students at-risk.
- The growth of MOOCs will force open education.
- Learning Management Systems (LMS) will undergo significant change to provide greater emphasis on learner control of the interface, learner input and the ability for instructors to plug and play external applications and incorporate social media.
- Universities will increasingly incorporate social media, blogs and wikis as part of formal courses.
- Universities will become 'digital'. MIT plans to extend eLearning technology across campus over time by trial, error and evaluation, providing high quality, sustainable higher education for a mass market.

#### **eLearning at York**

York has a long history of alternative course delivery from the offering of correspondence courses to online course delivery within the former Atkinson faculty. The institution has embraced the widespread adoption of learning management systems (e.g. Moodle) and other facilities supporting course web sites. A majority of York's courses make some use of course web sites, others make use of computer lab-based instruction, and there are a relatively small number of online courses. Despite this York has most certainly ceded any claim to alternate delivery leadership to others in Ontario (such as Ryerson and the University of Waterloo) as the number of blended and online course offerings at York has been relatively small and static over past years.

#### 2011-12 eLearning Baseline Survey Results

A recent survey of eLearning at York gives additional insight into the scope of its use across the continuum from web-enhanced to blended learning to online education.

Through November 2011 to March 2012 a short survey was sent to all course directors who taught a course during summer 2011, fall 2011, fall-winter 2011-2012 or winter 2012. For each course taught faculty were asked to select the mode of instruction, along the eLearning continuum, that best described their course. In total, surveys were distributed for 3,405 courses taught by 1,527 individual faculty members. Responses were received for 1,909 undergraduate courses or approximately 57% of the total.

The table below summarizes the results – the three numeric columns in the summary below show, by mode of instruction, the absolute number of responses, the percentage of responses and the percentage of mode by total courses surveyed. The right hand column does not add up to 100% as 45% were "no response".

Mode of Instruction	Responses	% of Responses	% of Courses
Face-to-face ("traditional" lecture or seminar format)	407	21%	12%
Lecture format with classroom aids (e.g. Powerpoint, videos, etc.)	892	47%	26%
Computer lab instruction (face-to-face instruction where each student has a computer)	68	3%	2%
Web-enhanced format (face-to-face instruction with supplemental web-based resources including lecture recordings)	283	15%	8%
Blended learning (a course where there are online components that reduce face-to-face class time by 30-80%)	73	4%	2%
Online education (100% of the course is delivered via the Internet, no face-to-face classes)	44	3%	1%
Other mode of delivery	128	6%	4%

The survey results showed a relatively high rate of use of technology in traditional face-to-face courses but quite a low number of courses that use alternate modes of delivery (i.e. online or blended). This latter figure is consistent with York's historical data which has placed the proportion of blended and online courses at around 4% to 5% of courses. For more details and a breakdown by Faculty please see Appendix B.

## Recent Initiatives to Advance eLearning

Over the past several years a number of initiatives across the University have emerged that have attempted to foster innovation and sustained change in the adoption of eLearning.

Over a two year period beginning in 2009 a web-enhanced project with the help of 38 course directors (over 6000 students) was conducted by the Faculty of Health in order to define a Moodle web enhanced technology package to aid in course delivery that was affordable, scalable and sustainable. The Institute on Research for Learning Technologies evaluated the prototype and concluded that (1) a Moodle framework comprised of a minimum of the course outline, course materials, course announcements, lecture recordings, website links and meaningful discussion forums provided students with maximum access to course materials and lectures and (2) the composition of the web-enhanced framework was appropriate, affordable and replicable for larger numbers of courses that wish to use web enhanced learning.

The integration of more web-enhanced learning strategies in recent years has been well received by students who appreciate the flexibility and access that the online posting of course outlines and course materials have provided. In particular, students greatly appreciated the opportunity to review their lectures online. Approximately half accessed the recordings 2-3 times per week or more, and most students found that the recordings helped them focus more on understanding their lectures, reducing the anxiety associated with learning the content (Wideman et al, 2010).

In 2011 the Faculty of LA&PS began encouraging faculty members to implement the webenhanced framework in its courses. While students embrace the convenience of the webenhanced framework, it has been found that course directors are not always enthusiastic. Concerns have been raised about such issues as copyright control and reduced attendance as a result of the integration of lecture recordings. Solutions to these issues are currently being discussed, recognizing that they are significant barriers to change for some.

The School of Nursing offers a fully online Master's degree program, the only one of its kind at York. The Schulich School of Business has partnered with ClevrU and NewMindsets Inc. to help online educators and eLearning service providers to move beyond videotaping lectures and converting existing textbooks into e-books and to create interactive learning environments beyond the classroom. Additionally, a number of individual faculty members across Faculties have adopted creative ways to integrate blended or online approaches into their courses and have provided rich learning environments for their students.

Over the past two years, the Academic Innovation Fund has begun to foster more Faculty-wide interest and activity, encouraging the development of models of blended and online learning that could be integrated into degree programs. There is a strong cluster of project activity in

both the eLearning and Experiential Education areas, which could provide a foundation upon which to build a comprehensive eLearning strategy. The descriptions of eLearning projects currently underway can be found in Appendix A. Detailed evaluations on two AIF blended learning projects were published by the Institute for Research on Learning Technologies (see http://irlt.yorku.ca/reports.html).

All of this represents a good start.

However a more systematic approach is needed in order to transform course learning environments and degree programs. The implementation of eLearning should be planned, deliberated, and coordinated at pan-University and pan-Faculty levels rather than individual courses being offered randomly across a variety of programs. Moving forward, the programs and courses using eLearning technology should be strategically identified. The modes of delivery (e.g. web-enhanced, blended, online) will be decided based on the best fit with the disciplinary pedagogy and student needs, while at the same time being mindful a faculty member's right to choose instructional methods as per YUFA and CUPE collective agreements. Quality assurance processes must be in place to ensure quality course development, along with educational development expertise, appropriate computer upgrades, technical assistance and appropriately equipped classrooms.

#### Support for eLearning

A significant increase in elearning course offerings necessarily requires a concomitant increase in support services for development and ongoing maintenance. Currently, support for elearning at York is currently available from a variety of sources.

- The Teaching Commons provides advice and professional development on good pedagogy, developing course outcomes and using eLearning strategies to enhance learning, and a locus for information exchange amongst faculty members.
- Some Faculties have internal capability (e.g., Education, Osgoode, Schulich) for course creation and faculty and student support. LA&PS eServices Office (eSO) provides eLearning support to its faculty members in partnership with UIT.
- UIT Learning Technology Services (LTS) provides a variety of services from basic "Moodle" (learning management system support) training and technical support, course creation and support, and media services to faculty from across York.
- UIT Instructional Technology Centre (ITC) provides additional media and recording services along with traditional classroom technology support.
- York University Libraries provides support to faculty for incorporating eResources (i.e. readings) into their online environments such as "Moodle". Librarians also collaborate with faculty to ensure that students have access to online tools that help students learn how to find, evaluate and use information in their course work. The Libraries in partnership with UIT Learning Technology Services work together to provide dynamic course specific library resources (Moodle Library block).

York has over 400 classrooms of which more than 70% are 'eClassrooms' that provide faculty members with the option of supplementing their teaching with presentations, multimedia and web resources. A minority but growing number of classrooms also support lecture recording.

Every course director has the opportunity to use a Moodle site to support their course(s). An estimated 60% of courses currently make use of some sort of Moodle platform. In addition to Moodle, a number of other 'stand alone' services are also available including: blog and wiki sites, discussion forums, quiz creation and plagiarism prevention. It should be noted that the new regulations for the *Accessibility for Ontarians with Disabilities Act (2011)*, which will come into effect in January 2014, will demand that all course offerings are provided in accessible formats with communication supports for persons with disabilities.

A consistent and persistent complaint from many faculty members has been that though these types of resources and supports exist, it is not clear how to access this support and whether an appropriate level of support will be available when it is needed. If it is York's desire to grow and institutionalize the use of eLearning, a very different approach to planning and supporting eLearning would be required.

# A 2017 Vision for eLearning

The Provostial White Paper and the University Academic Plan (UAP) have both pointed to an increasing role for eLearning at York. The UAP cited the potential for eLearning to enhance teaching and learning (supporting innovative and flexible curriculum delivery through online and blended courses, as well as other elements of technology enhanced learning) and the student experience (in part by creating communities within and beyond the University).

As noted previously in this document York has accomplished a great deal in the adoption of eLearning but in order to meet the challenges and opportunities of the future, our approach to eLearning must adopt an increasingly strategic focus.

Over the next five years eLearning must become an integral element of:

- A strong teaching culture that supports good teaching and creates an engaging learning experience for students;
- A quality student experience that makes learning more accessible and adaptable to the "multidimensional lives" of our commuter students; and
- A value proposition that enhances the reputation of the university and distinguishes York in attracting new students.

Based on the principles above, the ATA Group has created the following '2017 vision' for the integration of eLearning at York. By 2017, we will have

- 1. Enhanced the (commuter) student experience and convenience made learning resources more accessible for students by ensuring that a common, "baseline" web presence exists for 80% of courses and that these resources are generally accessible via mobile devices.
- 2. Enhanced student learning and flexibility through the adoption of blended learning as a common and accepted approach to course delivery increasing the number of blended courses year over year by (number)%\*
- 3. Provided increased learning options for existing students and for attracting new students through the identification and development of key, strategic online courses. Specifically, (number)%\*of key courses will be transformed or created to meet demand.
- 4. Attracted new domestic and international students through the creation of (number)\* online degree and/or certificate programs.
- 5. Enhanced student options by pursuing partnerships with other institutions to facilitate the development of and/or student access to blended and online course offerings.

<sup>\*</sup>Number or percentage to be specified in consultation with Provost & Deans

To realize this 2017 vision, a number of supporting initiatives have been suggested below.

## eLearning systems development

- A common eLearning language has been developed and utilized
- Each Faculty has mapped the courses in its degree program(s), made decisions and transformed courses using technology, based on the pedagogy of that course/degree and other key considerations
- An incentive program(s) is in place to encourage faculty members and Faculties to employ technology enhanced learning
- Copyright and course fee issues have been resolved
- York has joined an online consortium with several other universities which will collectively design course offerings and share these courses

## Improved processes to determine/decide on mode of delivery

- Parameters have been established defining when blended learning and online learning work best (e.g. disciplines, course size, course level)
- Decision mechanisms have been established to facilitate Faculties and/or departments in prioritizing courses for blended and online delivery
- Consideration/rationale for mode of delivery is required information for all new course proposals

## Improved faculty development in teaching and learning

- All new faculty members are required to participate in professional development activities addressing eLearning in their first year at York
- Online and in-person professional development support is provided for webenhanced, blended and online learning through partnerships between Faculties and the Teaching Commons
- The Teaching Commons has developed a peer mentor model which has been adopted by all Faculties
- An award system has been established to recognize Course Directors (CDs) who are using eLearning in outstanding and creative ways to enhance learning
- Funding for CDs to attend eLearning conferences is available, either for the purpose of professional development or presenting

## Support for students

 Online and in-person support is provided for web-enhanced, blended and online learning through partnerships between Faculties and the Learning Commons

• Each blended or online course provides a peer mentor program for students

## eLearning technology, equipment and classrooms

- All classrooms are equipped with everything needed to conduct a blended course (comprehensive LMS)
- HELP line/team is available to Course Directors 24/7
- Courses, both online and face-to-face, are conducted by instructional designers to assist both faculty and students with the use of software and hardware
- Classroom allocation schedule has been redesigned to take advantage of online and blended course formats

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#### Appendix A: Description of Academic Innovation Fund eLearning Projects (2012-13)

In Fall 2010 Vice-President Academic & Provost invested \$2.5 million to support initiatives that advance York's strategic priorities in relations to teaching and learning, including eLearning, experiential education, student experience, in particular the first year experience. Through the Academic Innovation Fund (AIF), 39 projects, led by faculty, staff and students, were awarded funding for 2011-12 academic year; and in 2012-13, 40 projects (13 new and 27 continuing) received support.

As identified earlier one of the benchmarks of the White paper is to "Enhance student engagement and learning through expanding and enriching E-learning and the use of technology." The AIF supported key eLearning projects that sought to develop models and structures that can be applied across the University for the benefit of all York students.

The following table is a summary of all eLearning (continuing & new) AIF projects funded for the 2012-13 academic year.

## **Academic Innovation Fund Projects 2012-13**

1. Adapting technology in the service of enhanced educational engagements in teacher education (\$78,800)

Project Leads: Jen Gilbert & Lyndon Martin, Faculty of Education

2. Connecting Students to Art and Community Through Strategic Goals and Innovations in E-Learning (\$94,000)

**Project Lead: Michael Longford**, Faculty of Fine Arts

3. Effective strategies and implementation of blended/online (eLearning) formats in large science courses

Project Lead: Tamera Kelly & Paula Wilson, Faculty of Science & Engineering

- 4. Enhancing Student Interactivity in ESL Foundations Courses with Moodle (\$5,300) **Project Lead: Eve Haque,** Faculty of LA&PS
- 5. Intercultural learning through virtual and on-site exchanges between York University students, refugee students on the Thai Burma border and displaced migrant students in Ranong, Thailand (\$22,288)

Project Lead: Robin Roth, Faculty of LA&PS

6. The Development of a Sustainable, Quality e-Learning Program for the Faculties of Health and LA&PS (\$200,000)

Project Leads: Susan Murtha & Avi Cohen, Faculty of Health & Faculty of LA&PS

7. Trans-disciplinary Innovation in Pedagogy: Advancing Educational Reform on the World Wide Web (\$200,000)

Project Lead: Gail Mitchell, Faculty of Health

8. Virtual Learning Commons (\$158,000)

Project Leads: Sarah Coysh & Mark Robertson, York Libraries

9. Virtual Orientation to Support Services for Students with Disabilities (\$15,000)

**Project Leads: Catherine Davidson & Maureen Haig,** York Libraries & Learning Disability Services

The two major pan-University eLearning AIF projects are the Development of a Sustainable, Quality e-Learning Program for the Faculties of Health and Liberal Arts and professional Studies, and the Virtual Learning Commons developed by the York Libraries.

The following table outlines the 2012-13 deliverables for both these projects.

1.	The Development of a Sustainable, Quality e- Learning Program for the Faculties of Health	1.	Refine and implement the support infrastructure for producing web-enhanced, blended and online courses with a final support infrastructure in place by April 30, 2013.
	and LA&PS (\$200,000)  Project Leads: Susan  Murtha & Avi Cohen,	2.	Work with the Provost and Deans to facilitate the creation of an annual plan for eLearning priorities, by April 30th.
	Faculty of Health & Faculty of LA&PS	3.	Deliver 80 new web-enhanced and 30 new blended and online courses, using eLearming infrastructure, by April 30, 2013.
		4.	Evaluate the sustainability of the eLearning infrastructure, and the quality of courses delivered against the Quality Matters rubric, by April 30, 2013.
2.	Virtual Learning Commons (\$158,000)	1.	Purchase appropriate hardware and software needed for project.
	Project Leads: Sarah Coysh & Mark Robertson, York	2.	Develop and deliver to completion eight to ten eLearning modules.
	Libraries	<ul><li>3.</li><li>4.</li></ul>	Assess eight to ten modules to ensure usability and compliance with legislation and standards.  Soft launch project with a target group of students and faculty.
		5.	Train staff members to create eLearning objects.

#### Appendix B: Baseline Survey Results – eLearning, May 2012

#### **Background & Methodology**

As stated in the University Academic Plan (2010 – 2015), one of York's highest priorities is to recruit and retain quality graduate and undergraduate students. To do this, we need to ensure that our curricular offerings are addressing the changing needs of our students and that our teaching faculty members feel supported. Two approaches that York has identified as important elements of our teaching and learning strategy going forward are Experiential Education (a pedagogical approach that blends theory and coursework with applied experience) and eLearning (which involves the electronic delivery of all or some academic instruction via computers and the Web.) To help identify the various types of experiential education and eLearning a 'Common Language' document was developed to describe ways of employing EE and eLearning in more detail. This document can be found on the Academic Innovation Fund website: http://aifprojects.yorku.ca/.

In the Fall of 2011, Sue Vail, associate vice-president, Teaching and Learning undertook a baseline survey to determine the extent to which eLearning delivery was being used at the University. An online survey was developed and implemented with the assistance of staff from the Office of Institutional Research and Analysis beginning in the Fall of 2011 and into the Winter semester 2012.

In total, 1,527 full and part time faculty were surveyed representing 3,405 undergraduate classes across all Faculties at the university. Each faculty member was asked to identify the type of eLearning employed for each course and to provide comments as required.

After an extensive round of surveying and follow up, an overall response rate of 57% was achieved representing 1,909 courses. It was deemed that the sample was of suitable size to establish a baseline for the university.

#### **Summary of Results**

Overall, the predominate method of course delivery was lecture format with classroom aids (47% of responses). However, slightly over one in five (21%) courses was delivered in face-to-face format only. Blended learning and total online education represented only a small number of courses at 4.3% and 2.8% of courses respectively.

Blended learning appeared to be more prevalent in senior courses (3.4% of year 1 vs 5.2% of year 4) while online education appeared to be used more at the first year level (4.1% year 1 vs 2.2% at year 4)

As expected there is significant variation in program delivery across Faculties with the Faculty of Education and the Faculty of Health representing the highest proportion of blended learning (10.5% and 8.5%) and Liberal Arts and Professional Studies and Health having the highest proportion of online education (3.7% and 4.2%)

There was little variation in the type of delivery by type of instructor. However it appears to be the case that part time faculty used more face-to-face learning and less online education when compared to full time faculty. Detailed results as well as breakdowns can be found in the attached table.

BASELINE SURVEY: ELEAR	NING								
1. OVERALL			2. Full Time	vs Part Tin	ne Faculty				
	Overall				-	Full Time	Part Time		
Face-to-face	20.9		Face-to-face			19.1	22.8		
Lecture format with classroom a	47.3		Lecture format with classroom		om aides	47.3	47.2		
Computer lab instruction	3.0		Computer lab instruction			2.8	3.2		
Web-enhanced format	15.4		Web-enhanc	ed format		17.9	12.6		
Blended Learning	4.3		Blended Lea	rning		4.3	4.3		
Online Education	2.8		Online Educa	ition		3.9	1.7		
Other mode of delivery	6.4		Other mode of delivery			4.6	8.3		
Total	100.0		Total			100.0	100.0		
3. YEAR OF STUDY									
	Year 1	Year 2	Year3	Year 4					
Face-to-face	16.7	15.9	19.1	25.7					
Lecture format with classroom a	50.7	48.9	51.3	44.7					
Computer lab instruction	2.7	4.7	2.6	2.7					
Web-enhanced format	19.7	17.6	14.9	13.1					
Blended Learning	3.4	4.7	4.2	5.2					
Online Education	4.1	2.8	3.0	2.2					
Other mode of delivery	2.7	5.3	5.0	6.4					
Total	100.0	100.0	100.0	100.0					
4. FACULTY									
	AP	ED	ES	FA	GL	HH	LW	SB	SC
Face-to-face	19.3	20.2	10.0	22.5	25.3	20.5	25.0	13.3	29.0
Lecture format with classroom a	53.2	51.8	80.0	26.1	54.2	36.3	50.0	60.0	40.0
Computer lab instruction	1.8	-	5.0	14.8	6.0	1.2	-	-	2.8
Web-enhanced format	15.6	10.5	-	10.6	9.6	19.3	12.5	26.7	20.0
Blended Learning	3.0	10.5	-	3.5	3.6	8.5	-	-	1.4
Online Education	3.7	-	-	2.1	-	4.2	-	-	0.7
Other mode of delivery	3.4	7.0	5.0	20.4	1.2	10.0	12.5	-	6.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0