

Assignment 4:

Analysis of E-learning Approach: University of Waterloo

ETEC520

April 4, 2015

Word Count: 3318

## **Introduction**

Strategic planning provides a method for an institution to effectively implement their vision into practise. According to Kaufman and Herman, strategic planning should be effective on a societal level, at an institutional level, and on an individual level (Kaufman & Herman, 1997). Additionally, they urge a method of pro-active planning, whereby an institution plans for the future, instead of reactive planning when a crisis occurs. Kaufman & Herman, 1997). In this way an institution can plan for an idealized future and formulate a plan which is effective on all of the levels, before dealing with the practicalities of the real world.

## **Overview**

The University of Waterloo's strategic plan is focused on their goal of being the leading university in innovation. Their mission statement is "The pursuit of learning through scholarship, teaching and research within a spirit of free enquiry and expression" (University of Waterloo, 2013B). While their strategic plan covers all aspects of the university, it also includes a significant portion for continued development of e-learning. They include all aspects of e-learning, including incorporating innovative technologies into their classrooms, continuing to develop online courses, seeking out and creating new technologies to assist in the development and facilitation of online and hybrid courses (University of Waterloo, 2014B).

Currently, they are home to the province's largest collection of e-learning, fully online courses, providing over 400 options, as well 11 complete bachelor's degrees and 8 complete master's degrees (University of Waterloo, 2014B). Further development of courses for the online environment is a key aspect of their e-learning strategic plan. They are also working to develop courses for faculty and graduate student facilitators to help them develop online

facilitation skills (University of Waterloo, 2014B). Additionally, they are working on developing software for e-learning, and the integration of software that currently exist (University of Waterloo, 2014C). Such developments cover a variety of technologies to assist in online learning, both for fully online and hybrid or blended courses (University of Waterloo, 2014C). It also includes combining different online teaching and learning programs to improve student access to a variety of learning materials.

The strategic plan for the university's development also includes further development of technologies to be used in traditional classroom settings, including 'bring your own device' programs (University of Waterloo, 2014A) and exam/test marking software for increased feedback (University of Waterloo, 2014C).

A variety of documents contain these and other initiatives relating to the overall strategic plan for the university as well as progress reports on the implementation of the supporting plans. The University of Waterloo focuses on innovation in their research, in their student developments, and in their teaching practices. This is reflected in their plans to improve programs offered by their university, both in traditional face-to-face learning and in hybrid, blended, and fully online e-learning.

## **Analysis**

### *Organization*

The University of Waterloo has two centres that contribute greatly to the e-learning taking part at this institution; they are The Centre for Teaching Excellence and The Centre for Extended Learning. However, e-learning is not completely contained within these centres, as all

areas of the university are encouraged to be part of the institutional goal of being a leader in innovation and e-learning through the incorporation of leading technology. The strategic plan does not, in fact, list any particular department or centre as being responsible for the e-learning of the institution. However, these two centres have taken on much of the work of developing new courses and providing information about educational technologies and best practices.

The Centre for Extended Learning is the interface between the university and students wishing to take an e-learning course or program. This is also the Centre through which instructors can apply to develop an online course. It provides guidelines on the best practices when developing online courses; as well as information about the courses scheduled to be developed in the online format (University of Waterloo, n.d.A). Through this centre, students have access to individual online courses, online degree programs, as well as professional development courses and pre-university review courses (University of Waterloo, n.d.A).

The Centre for Teaching Excellence's vision is to "inspire teaching excellence, innovation, and inquiry" (University of Waterloo, n.d.B). They believe that by achieving teaching excellence, they will be providing deeper learning experience for their students, which is a goal for the university in all learning. The Centre for Teaching Excellence has a number of initiatives to promote the ideas laid out in their vision statement, and a number of these have to do with e-learning initiatives.

For instructors looking to revolutionize their traditional classrooms with technology, they provide a list of educational technologies. This list includes a link to a page about each technology explaining what the technology is, how it works, the benefits of using the technology, best practices when using the technology, and links to examples or instructional videos. They also have a section where they illustrate how technology can help with common instructional

complaints (University of Waterloo, n.d.B). There is also a section on blended learning. This section includes an explanation of blended learning, a brief overview of the best practices in blended learning, and a number of examples of the different styles of blended learning classrooms (University of Waterloo, n.d.B). For fully online instruction, there are a number of tips and resources designed to assist the instructors, for example how to facilitate an effective discussion in an online forum (University of Waterloo, n.d.B).

The Centre for Teaching Excellence also incorporates best practices for online teaching within their materials for traditional teaching, in keeping with their focus on innovative teaching practices as a component of the overall vision of the university. For example, the centre hosts a teaching and learning conference, which includes traditional presentations, such as helping students make the transition to high school, but also includes talks related to e-learning, such as the role of gamification (University of Waterloo, n.d.B).

These two centres are the areas of the university that are best equipped to provide information and resources about online learning to the faculty and the students. Courses are developed in the project management style with a design team, and although individuals can submit an application to create an online course they must be incorporated into a long-term, multi-year plan of courses to be developed. The Centre for Extended Learning which traditionally developed correspondence based distance education courses for the University is now developing these courses for delivery via an online medium (University of Waterloo, n.d.A). The Centre for Teaching Excellence works to provide updated and innovative teaching practices to the faculty of the university, which would, in recent years, include the spectrum of e-learning. Again, because of the University of Waterloo's primary goal is to be a leader of

innovation, e-learning practices are not confined to these centres but are also taking place in all faculties.

### *Support*

The University of Waterloo supports the development and progression of e-learning as part of their goal of innovation. Their strategic plan does not specifically describe how e-learning should be implemented but, through examination of the principles described in the strategic plan and other documents, it is clear that the University of Waterloo supports e-learning by encouraging many different initiatives.

One such initiative was a task force that investigated the state of deep learning at the university. Although this report was not focused on e-learning, they did mention e-learning and online technologies in a number of their recommendations. For example, they recommend that the “open classroom” system, where teachers can learn by observing another’s class, be expanded and a system be created for sharing excellent online elements enabling teachers to share and develop online teaching practices (Ellis et al., 2011). The taskforce also recommended that a Learning Innovation and Teaching Enhancement (LITE) grant be created to extend beyond the current Program Initiative Fund (PIF) and Learning Initiative Fund (LIF). The LITE grant would be inclusive of online and e-learning innovations including the development of online classes and training for faculties in creating and facilitating online courses (Ellis et al., 2011).

The University also shows support for e-learning initiatives by identifying the skills needed to facilitate an online course and providing training to faculty as well as graduate student teaching assistants (University of Waterloo, 2013A). Additionally, the university provides avenues for teacher and student input into new technologies (University of Waterloo, 2013C) and

the use of data analytics to improve student experience (University of Waterloo, 2014C).

Finally, they are supporting development of new types of software to improve online teaching in subjects such as mathematics (University of Waterloo, 2014C).

One of the stated goals for academic programing is “be a leading provider of technology-enabled learning opportunities” (University of Waterloo, 2014A). Not only would they like to increase the number of courses available in an online format, but this goal also includes innovations for educational technologies for use in classrooms and initiatives for preparing facilitators and students for classes in an online learning environment (University of Waterloo, 2014A).

The strategic plans of the university make no mention of how the university intends to secure funding for these types of innovation projects. However, a mention was made in an archived bulletin that the Centre of Teaching and Learning was to receive \$250,000 in 2002 as part of an effort to increase tuition revenues by increasing the types of courses offered. (Redmond, 2002). The government of Ontario is also supporting e-learning in the province through the Ontario Online Portal, which the University of Waterloo is a part of, with a grant of \$42 million (Council of Ontario Universities, 2014).

The University of Waterloo seems to be extremely supportive of e-learning initiatives. There is an interest to promote the entire spectrum of e-learning, from incorporating technology into face-to-face classrooms to fully online courses. Not only is there a willingness to develop these types of programs but they are also interested in supporting and discovering best practices in this field by taking into consideration the opinions of students and instructors and also providing avenues for instructors to collaborate to further their knowledge of educational technologies.

## *Delivery*

The University of Waterloo is taking action to ensure students can easily access their online content. The university is increasing what is available online, improving the interface through which content is accessed, and expanding the on-campus infrastructure for ease of connection.

One method of delivery being implemented is a 'bring your own device' program (University of Waterloo, 2013C). To do this, the university must ensure that the content and software is available in formats compatible with all types of mobile devices. This means not only do they need to make sure that specialized software can be downloaded and used on a mobile device but also that students can connect to the internet anywhere on campus. To achieve better conductivity, the university has negotiated to build a new cell tower on campus (University of Waterloo, 2013C).

The university is working to integrate technology into all types of learning situations. This includes exploring technologies like Top Hat, a student response system using cellphones, for in classroom teaching (University of Waterloo, 2014C). They are continually expanding the number of online courses being offered (University of Waterloo, 2013B), developing more fully online programs, such as the Masters of Social Work implemented in 2013, as well as introducing hybrid programs such as a graduate professional skills program (University of Waterloo, 2014C).

They are also creating their own software to facilitate the instruction of STEM subjects (science, technology, engineering, mathematics) in an online environment, with the hopes of putting core mathematics courses online and being able to share the technology with the K-12



system as well (University of Waterloo, 2014C). To accomplish this they are working with Maplesoft, a company with strong ties to the University of Waterloo, and their new projects “Clickable Math” and “Clickable Engineering” which help students focus on the concepts (Maplesoft, 2015). They are also working with another company that has strong ties to the university, Desire2Learn, to improve the workspace of online classroom and allow for easy integration with other educational technologies (University of Waterloo, 2013C).

The University of Waterloo is also working to ensure consistent and high quality delivery of its online programming. They are looking to incorporate standardized assessment practices to ensure consistency in marking and feedback, as well as exploring software options to increase the speed and ease by which instructors can provide feedback to their students (University of Waterloo, 2014C).

Finally, the university is attempting to improve the overall experience for students using any of the online services the university provides, from the student portal to a fully online class. To do this they are making improvements to the student portal and they are also seeking feedback from the students about their experiences (University of Waterloo, 2013C). The National Student Engagement Survey completed in 2014, indicated that a majority of students believe that the institution is providing technology to help them learn and they are being taught with cutting edge technologies (University of Waterloo, 2014C). Additionally, a survey conducted by the Centre for Extended Learning in 2013 showed that 85% of students that had taken a fully online course would be interested in taking another one (University of Waterloo, 2014C). These surveys indicate that the university is delivering on its intentions to deliver online content in a way which will benefit its students.

The University of Waterloo is delivering e-learning in across a spectrum from incorporation of new technologies into face-to-face classrooms, to improving the workspace of fully online classes. They are striving to ensure using technology is easy to use for students and delivers a high quality educational experience.

### *Strengths*

One of the strengths of the University of Waterloo's strategic plan is that they are building upon their tradition of being an institution that focuses on innovation and that they have a long history of supporting and developing online learning (University of Waterloo, 2013B). They are also going beyond the general development of online courses as they are also thinking about the field as a whole and working on making improvements that will have additional long term benefits. For example, they are not just utilizing existing learning software, they are adapting it for improved usability as well as engaging with software development companies for new or improved programs for e-learning. They are also expanding the on-campus infrastructure to ensure that students are able to easily access any online content.

Another strength is that they are focused on maintaining best practices when it comes to e-learning and are providing training for the faculty members and their graduate student teaching assistants (University of Waterloo, 2013A). They are also looking to enhance both teaching and learning through programming (University of Waterloo, 2014A) and the collecting of feedback from the students and the instructors about their e-learning experiences (University of Waterloo, 2014B).

Finally, e-learning is strongly supported by the University of Waterloo as it re-enforces their strategic mandate of becoming a leader of innovation (University of Waterloo, 2013B) and

continual development of teaching practices for outstanding academic programming (University of Waterloo, 2013A). This means that e-learning is integrated into all of their teaching and learning plans and is not just an off-shoot or pet project that is potentially in jeopardy of losing its funding.

### *Weaknesses*

One of the main weakness in the University of Waterloo's strategic plan is that there is no specific mention of e-learning, and nowhere is there a succinct list of e-learning initiatives being undertaken at the institution. Even though it is implied through the rhetoric and is present in a number of different areas, e-learning is an important aspect of the current post-secondary environment and should at least have its own section where the main initiatives are mentioned. Related to this is the fact that they make no mention of any type of rationale behind the need or reasons for the inclusion for any of the e-learning programs they are implementing, beyond the continual mention of supporting innovation in research and teaching and learning practices. As there is no section related to e-learning or the development of educational technologies, there is also no clarity on how the university is intending to fund these types of developments.

There are also few concrete implementation plans indicated within the strategic plan for the University of Waterloo. There is much discussion about their wide array of initiatives for improving the university but few actual pointers to implementation details. It does not lay out the steps that will be needed to achieve the goals, or any areas where they may encounter difficulties. Other than the fact that the strategic plan covers the years between 2013 and 2017 there are no specified timelines included (University of Waterloo, 2013B). There is also no mention of which projects should be prioritized or even if there is a particular order in which

activities should or will occur. Overall, this strategic proposal is quite weak as it is filled with a lot of rhetoric but few actual indications on how to proceed.

### *Recommendations*

My first recommendation to strengthen this strategic plan would be to include some references to implementation plans. It is very exciting to read about all of the different initiatives that the university is planning to complete in the five year period, but it leaves the reader wondering how they will be implemented. Even if they did not wish to include specific information in the main strategic document, they should provide links to where additional plans for accomplishing each outcome are laid out. These could be detailed implementation plans or brief outlines of actions they envision needing to complete to implement each initiative.

Another recommendation would be to provide a timeline of events in the implementation process. This does not need to be very detailed since the timeline will be affected by many types of unavoidable delays, but should provide ‘checkpoint’ dates in order for interested parties to have an understanding of whether or not implementations are moving according to the overall strategic plan.

Finally, it would be a good idea to provide the rationale behind the initiatives and how each connects to the overall vision for the university. This would help to identify which initiatives should have priority should time and resources become limited.

These three recommendations would strengthen the strategic plan of the University of Waterloo by providing key actions and milestones for implementing the many initiatives they outline in their goal to become a leader in innovation. It would help them identify their priorities

for effort and funding and also later determining if they are continuing on track to completing their goals.

### **Summary**

Through its policy of encouraging innovation, the University of Waterloo does support 'lone ranger' designers; however, there is significant overall institutional support for departments to work together to create and improve e-learning technologies. The Centre for Extended Learning and the Centre for Teaching and Learning operate in a project management method to do most of the course design while working with departmental innovators and subject matter experts. Promoting e-learning connects to the overall university goal of supporting innovation and academic excellence. They have a sliding scale of how e-learning is utilized across their course offerings. They are also working to improve educational technologies and the use of such. However, their strategic plan is quite weak as it only mentions e-learning initiatives as incorporated within other areas and the plan provides no actual implementation insights on e-learning developments or expansion.

### **Conclusion**

The University of Waterloo wants to embrace innovation and create learners who themselves advance innovation (University of Waterloo, 2014B). This would be their societal goal as discussed by Kaufman and Herman (1997). To accomplish this, the university is looking for ways to use technology to revolutionize the classroom to provide a better learning experience. Although this is not their only method of creating a better learning experience, e-learning has found its way into many different programs at the University of Waterloo.

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