EVALUATION OF BLENDED LEARNING COURSES IN THE FACULTY OF LIBERAL ARTS AND PROFESSIONAL STUDIES AND THE FACULTY OF HEALTH – WINTER SESSION 2012

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Executive Summary

Presented in this report are the results of a study on the first year implementation of the blended learning project in the Faculty of Liberal Arts and Professional Studies and the Faculty of Health that was supported by the Academic Innovation Fund. Eight courses were redesigned and taught in the blended mode in the Winter 2012 session. The courses varied considerably in the portion of time devoted to online activities as a substitute for face-to-face sessions, ranging from a low of 27% of the course online to a high of 50%. The portion of a student's grade awarded for online work varied from two courses giving no marks for online activity to one course that based as much as 60% of the grade on the online work.

We analyzed each course Moodle site on four criteria derived from the literature: (1) organization and layout; (2) instructional design and delivery; (3) communication, interaction, and collaboration; and (4) learner support and resources. With respect to the first criterion, the sites were logically organized for the most part although two sites used non-conventional layouts and several lacked internal consistency in naming of links. Navigation through the sites was straightforward except for one site that took an inordinate amount of time to load because of graphical content and some lecture capture video files were quite large for downloading. For instructional design, the second criterion, we noted some inconsistencies across courses such as different definitions or no definition of blended learning, academic integrity expectations or code of standards for online discussions not addressed, and nothing stated about technical requirements for full participation. A variety of tools were used to facilitate communication and interactions (criterion 3) – course announcement forums, discussion forums, chat rooms, and wikis. In discussion forums, students interacted with course content although it was difficult to follow a discussion because threads were not used effectively. Online group work was also evident in six courses. As for the fourth criterion, learner support and resources, most instructors did provide links to the York Library, Moodle tutorials, and course-specific and other resources. Some links were broken at the time of examining the sites and sometimes resources were found in different areas of the site.

Students and instructors were surveyed on their perceptions of blended learning. The surveys we developed were based on several relevant ones found in the literature and supplemented with questions relevant to the York University context. Questions were grouped according to four criteria taken from the York University eLearning Business Case: (1) increase York's ability to respond to enrolment pressures; (2) provide better experience for commuter students; (3) better engage students; and (4) improve student learning. As for the first criterion, a solid majority of students appeared to favour blended learning over fully online or lecture only courses, which bodes well for York to increase its blended offerings. Instructors responded that preparing a blended course takes more time than a traditional lecture course, suggesting that instructor support is crucial for ramping up blended courses to respond to enrolment pressures. It appears that blended learning does provide a better experience for commuter students, the second criterion, as a clear majority of students liked the convenience, cost, and reduced time pressures associated with working part time and commuting to campus. According to instructors, the face-to-face sessions helped students collaborate better online. With regard to better student engagement, the third criterion, a plurality of students appear to have been more engaged with blended learning but not a solid majority. This suggests that instructors have to seek ways to better engage students through more challenging and meaningful online activities. Instructors felt that they had more interaction with students than in traditional lectures. For the final criterion about improved learning, over half of the students prefer blended to either fully face-to-face or fully online courses and that they understand better in the blended format.

Instructors also reported that students did perform better overall and they were not concerned about academic integrity or lack of student engagement in their courses.

Given the above findings, we offer a number of recommendations below with respect to course design, students, and faculty.

With regard to course design, we recommend that all Moodle sites clearly describe participation expectations and grade weighting for the online components. A few standard course templates should be presented to instructors which they, in turn, can adapt for their own purposes. Also, only two or three patterns for the online/face-to-face split of classes should be used so that unoccupied classroom space can be utilized by other courses.

Our recommendations pertaining to students include striving for a higher level of course satisfaction (e.g., 80%) and making all decisions regarding course design and delivery with this goal in mind. Students also need to be better oriented to studying in the blended mode and that they be made aware of the course schedule and online requirements. Instructors need to be careful not to overburden students with work by merely adding an online component to their regular course.

Finally, with regard to instructors, all should be encouraged to participate in the AIF Project Blended Course to help them prepare to teach in the blended format. Instructors should also be encouraged to work with an instructional designer to ensure that their course meets accepted design criteria such as *Quality Matters*. Continued technical support of instructors is also required, particularly to address problems that they experienced this year.

Table of Contents

List of Tables

1. Introduction

In the spring of 2011, the Faculty of Liberal Arts and Professional Studies (LAPS) and the Faculty of Health (FH) were awarded a grant from the Academic Innovation Fund to develop a sustainable, quality e-learning program over a three year period. A major component of the project was the creation of undergraduate *blended learning*[1] courses. The first eight courses of the program were launched in Winter 2012. The Institute for Research on Learning Technologies (IRLT) was engaged to conduct an analysis of the course content, assess student perceptions of their blended courses, and to examine faculty experiences in teaching in the blended format. This report presents the results of this study.

The framework used to guide the study was developed as part of the *E-Learning Business Case for York University*[2]. This framework uses four criteria to assess the merits of three instructional modes: web-enhanced learning, blended learning, and fully online learning. The criteria asked of the three instructional methods, how well they:

1. Increase York's ability to respond to enrolment pressures
2. Provide better experience for commuter students
3. Better engage students
4. Improve student learning

The criteria led to the development of the data collection instruments and are used as organizers for presenting the results of student and instructor perceptions sections of this report. The report begins with a description of the methods used to gather data, which is followed by an analysis of the content and design of the course Moodle websites. The student survey results are presented next and after this instructor experiences are presented. The report concludes with a summary and recommendations for future blended learning offerings in LAPS and FH.

[1] For the purposes of this study, blended learning courses are defined as those where a portion of the face-to-face time of the standard lecture is replaced with online activities.

[2] See http://irlt.yorku.ca/reports/E-learningcasefinalversion.pdf

2. Methodology

The eight courses in the study and their enrolments in March 2012 as reported by the instructors are given in Table 1 below. A ninth course, ITEC3230, was slated to be part of the study, however the instructor reported that he did not have sufficient time to redesign the course in a blended format. For the sake of instructor anonymity the courses were randomly labelled A through H when they are discussed in this report.

Table 1: Courses Included in Study and their Enrolments

Course Number	Course Title	Enrolment
ADMS 2700	Fundamentals of Emergency Management	72
ADMS 4561	Taxation of Personal Income in Canada	45
ANTH 1110	Introduction to Social Anthropology	38
HLST 3310	Electronic Health Record	43
KINE 4460	Occupational Biomechanics	42
NURS 4610	Human Experience of Chronic Health Challenges	21
NURS 4760	Child Rights and Child/Youth Centredness in Canadian Nursing	49
PHIL 2250	Philosophy of Gender and Sexuality	71
Total enrolment		381

2.1 Analysis of Moodle content and design

We analyzed the content of the above eight Moodle course websites. The framework employed was an adaptation of three existing evaluation rubrics frequently used to assess the design and delivery of online courses in higher education. These rubrics include: the *Quality Online Course Initiative (QOCI) Rubric*[3], the *Quality Matters Rubric*[4], and the *Rubric for Online Instruction*[5]. A brief comparison of mentioned evaluation rubrics is presented in Appendix A. Our rubric was specifically tailored for assessing blended courses and consists of four evaluation criteria as follows:

1. *Moodle course website organization and layout design*: refers to the use of Web pages, graphics, multimedia, and accessibility standards in the web pages of a course under the course instructor's control and within the Moodle specifications.

[3] Quality Online Course Initiative (QOCI) Rubric. An initiative sponsored by Illinois Online Network (ION) University of Illinois. Retrieved February 09, 2012, from http://www.ion.uillinois.edu/initiatives/qoci/rubric.asp

[4] Quality Matters™ Rubric Standards 2011-2013 (2011) developed by Quality Matters Program, Maryland Online Inc. Retrieved February 09, 2012, from http://www.qmprogram.org/files/QM_Standards_2011-2013.pdf

[5] Rubric for Online Instruction (2009). An initiative sponsored by California State University, Chico. Retrieved February 09, 2012, from http://www.csuchico.edu/tlp/resources/rubric/rubric.pdf

2. *Instructional design and delivery*: refers to the analysis of learning needs and the systemic approach to developing an online course in a manner that facilitates the transfer of knowledge and skills to the learner through the use of a variety of instructional methods, which cater to multiple learning styles, strategies, and preferences.
3. *Communication, interaction, and collaboration:* addresses how the course design, assignments, and technology effectively encourage exchanges amongst the instructor, students, and content.
4. *Learner support and resources:* refers to program, academic, and/or technical resources available to learners.

Each of the above criteria has three sub-criteria. A complete description of the rubric is given in Appendix B.

Our analysis consisted of writing narrative summaries of the extent to which the courses met the above criteria. We also prepared a checklist summary of how many courses met each of the criteria.

2.2 Student and instructor surveys

When developing the student and faculty questionnaires, we reviewed several existing instruments to determine how well they met the needs of this study. These included: the *Classroom Survey of Student Engagement* (CLASSE)[6], which is an adaptation of the National Survey of Student Engagement; the faculty and surveys in the appendices of Garrison and Vaughan's book *Blended Learning In Higher Education*[7]; the *Blended Learning Tookit*[8] developed at the University of Central Florida; and faculty and student surveys from Cook, Owston, and Garrison's COHERE study[9]. Then we either adapted questions from these existing surveys or developed our own questions so that the four criteria cited in the *E-Learning Business Case* cited above were adequately addressed. Added to these were several other questions specific to the York University context. The resulting final questionnaires are given in Appendix G (Survey for Students) and Appendix I (Survey for Instructors).

A paper version of the student questionnaires was administered in class a week or two before the classes ended by either one or both of the authors. Prior to completing the questionnaires students read and signed an inform consent form that was approved by York University's Research Ethics Sub-Committee. Responses were anonymous, however students were asked to fill in their student numbers. The student numbers were used to award by random draw in each class a $25 gift card from the York University Bookstore. All students in attendance at the

[6] Classroom Survey of Student Engagement (CLASSE). An adaptation of the National Survey of Student Engagement (NSSE) with permission from Indiana University. Retrieved November 03, 2011, from http://assessment.ua.edu/CLASSE/Documents/CLASSE_Student.pdf

[7] Garrison, D. R., & Vaughan, N. D. (2008). *Blended learning in Higher Education: Framework, principles, and guidelines* (Appendiices 5 and 6). Jossey-Bass: San Francisco.

[8] Blended Course Student Survey | Blended Learning Toolkit, prepared by the University of Central Florida and the American Association of State Colleges and Universities. Retrieved November 03, 2011, from http://blended.online.ucf.edu/evaluation-resources/survey-instruments/

[9] Cook, K., Owston, R. D., & Garrison, R. D. (2004). *Blended learning Practices at COHERE universities.* (Institute for Research on Learning Technologies Technical Report No. 2004-5). Toronto, ON: York University.

time of administration agreed to complete the questionnaire resulting in a total of 221 respondents.

The instructors were invited to attend one of two face-to-face meetings we held where they were asked to complete their questionnaire. Afterwards an informal discussion was held that offered instructors an opportunity to elaborate on their responses or to discuss any other aspect of their experience teaching in the blended mode.

3. Analysis of Course Moodle Websites

3.1 Moodle course website organization and layout design

For the most part the course Moodle websites were well-organized and designed in a simple, straightforward fashion. Three of the eight websites used the standard Moodle default theme; one website was designed with the aid of an external Flash-enabled add-on Block; and the other four websites used the York Moodle theme. Six courses were set up using standard Moodle course organizational formats: four used the weekly format and two employed topics formats. The two others used non-conventional formats: one grouped all activity/resource items in the general block at the top of the Moodle main page; the other grouped activities/resources according to function i.e., communication tools, assignments, lectures, and readings.

Regardless of course organizational format, several course websites included minor functional and visual inconsistencies such as: (a) the inconsistent use of labels for “video lectures” each week (or topic section) of the course (e.g., some weeks used “video recordings,” other weeks used simply “video” or just the title of the video); (b) the lack of consistency in a list of items in each week (or topic section) of the course (e.g., some weeks included “weekly objectives,” some did not; some weeks included discussions, some did not; etc.); and (c) the inconsistency in using font type, size, color, and text highlight color throughout the site. One website held a large amount of information in the form of hyperlinks that could be overwhelming to the student trying to study the course content.

Most course websites were easy to navigate. The course website that integrated Flash-enabled blocks was not optimized for efficient loading resulting in a time-consuming experience for students (e.g., we found that loading of one page could take up to 4 minutes to load on a high speed network). In addition, this type of design is more likely to cause accessibility problems for students with disabilities. Some websites contained hyperlinks which opened either within the same or a new window. Such an inconsistent use of hyperlinks might confuse the user and cause distraction from learning (e.g., they might close the website instead of going back to the previous page). In addition, some course websites provided links to either text or video resources, omitting furnishing some text directives or textual cues next to the hyperlink (e.g., video link). Overall, the course websites had few broken links, however we observed one website that had several broken links and the absence of hyperlinks to listed resources (e.g., video lecture, course readings) posted on a few pages.

Moodle allows instructors to embed document files into its webpages to facilitate students’ viewing. However, some course websites displayed Word-processed documents or PowerPoint presentations as individual items that needed to be open in a separate window or even required the current version of software itself (e.g., MS Office) to be able to view the document. It also needs to be noted that some files uploaded individually (as attachments) were inordinately large and took excessive time to open or download in order to view the document.

Four course websites offered video recordings of lectures using either Camtasia Relay or Mediasite platforms, which do not require any additional software to view videos. All video files met minimum audio and video standards, such as clarity, length, and system compatibility. In a few cases, the length of video files was over 30 minutes long which could restrict some students’ ability to view/download the file on their computers with lower bandwidth. Some course websites provided access to external videos by embedding them into Moodle webpages using multimedia plug-ins. A few course websites were not always consistent in their use of images. Some of the uploaded materials (e.g., images, charts, graphs, scanned documents)

were not presented in a conveniently readable format, e.g., some documents were rotated 90 degrees which made them difficult to read, moreover the option to rotate the document within Moodle is not provided. As a result students would have to print them out to read them.

A quantitative summary of how many course websites produce evidence of the Category One is presented in Appendix C.

3.2 Instructional design and delivery

During our examination of course syllabi, most instructors indicated that the course is offered in a blended format and described the role of both face-to-face and online components. Three instructors provided a statement and/or a link to the AIF Project in their syllabi. In most cases, the definition of blended learning varied. For instance,

- This is a "blended" learning course, and though there may be less in-class lecture time, this is to make room for more application and interaction on Moodle.

- Blended learning combines face to face classroom methods (human interaction) with computer-mediated activities (electronic learning) to form an integrated instructional approach. In particular blended learning often refers to the provision or use of resources which combine the innovative educational technologies of e-learning (electronic) with other educational resources and supported with forums; e-mentoring or e-tutoring; and onsite expert resources…Our goal in this blended learning course is to create a community of learning that combine the best aspects of both face to face and online instruction. Classroom time will be used to engage students in advanced interactive experiences. Meanwhile, the online portion of the course will provide students with multimedia-rich content at any time of day; anywhere the student has internet access. This allows for an increase in scheduling flexibility for students.

- This is a blended learning course – part online and part in-class. This means that in order to take this course, you will need reliable and consistent access to the Internet. Please read the syllabus carefully so that you are aware of which days we are in class. When we are not in class, you will be doing online assignments.

It needs to be noted that none of the course websites examined provided any information about being a blended learner (e.g., possible challenges students may encounter while learning in a blended modality or suggestions or tips for students on how to structure and manage their learning in a blended course).

The analysis of course syllabi revealed that the time allocated to an online portion of the blended course ranged from 30% to 50% of the total course time. For instance, in some courses students studied online every other class, in others – students had only 3 or 5 online lectures. We also looked at what percentage of online activities was counted toward a student's overall grade. It appeared that online activities (i.e., online participation in discussion forums or providing reflections to course material posted on Moodle) comprised 29% to 35% of a student's final grade in three courses. Two courses seemed to assign 45-55% of the total grade to online activities (which were mostly made up of online quizzes). One course instructor assigned 10% of the total grade to online discussions. Two courses produced no visible evidence that student's online participation is included in their course grading criteria. More detail is provided in Table 2.

Table 2: Percentage of Online Component in Blended Courses

Online Component	Course A	Course B	Course C	Course D	Course E	Course F	Course G	Course H
Proportion of online time in relation to a total course time	30%	40%	36%	27%	40%	30%	50%	50%
Proportion of grading for online activities in relation to a student's total grade	29%	37%	35%	0%	0%	10%	45%	60%

All course syllabi provided a course description, stated learning objectives/expectations, and provided students with a list of textbooks and other instructional materials needed for the course. In seven course syllabi, the structure of course content was sequenced and structured in a way to help students to readily understand the course organization and its main components. We observed, however, a number of inconsistencies in the composition of course syllabi, which included the following:

- Instructors used different syllabus templates which demonstrated marked differences in relation to how course information was organized and what components were included.
- The purpose of learning activities was clearly formulated in four courses; the rest of courses mostly specified what components should be included into assignments but did not provide any rationale behind them.
- Most courses provided a concise list of modules and learning activities, as well as a grading structure.
- A few course syllabi produced a separate calendar of due dates; in most cases the calendar was embedded into a grading scale or a weekly schedule of lectures.
- In five courses, we were unable to find a code of conduct on Moodle, such as netiquette standards for online discussions, email communication, etc. A few course syllabi produced some evidence regarding a code of online behaviour (e.g., email guidelines, how to communicate with an instructor, etc.).
- Academic integrity expectations were addressed in only five courses.
- Only four course syllabi contained information about assistance/services provided for students with special needs.
- None of course syllabi provided a list of technical competencies necessary for course completion (e.g., Internet skills, Moodle proficiency etc.) nor a list of technical requirements (e.g., connection speed, hardware, and software), except mentioning Moodle and Internet access in a few cases.

As for course organization within Moodle, only five course websites demonstrated a clear structure of course modules and their relevant learning components. The other three course websites drastically differed from their counterparts. For instance, two courses sites provided a repository of folders with course readings and lecture notes and two discussion forums (i.e., course announcements and general course-related discussion forum); one course website was structured by learning activities (i.e., communication tools, assignments, lectures, and readings).

A few course websites had a dedicated area/folder of course-related documents (e.g., syllabus, information about the blended course, helpers, etc.). Only one course website had a clear

calendar of activities and due dates for assignments, which was enclosed as a separate document, rather than in a course syllabus. Two course websites provided some guidelines specifying rules of online communication and how instructor could be reached. It needs to be noted that one instructor used Gmail (rather than YorkU) for online communication and another instructor emphasized that communication will be exclusively within the Moodle environment.

In terms of teaching methodology, most courses were taught using a mixture of lectures and active participation in face-to-face and online learning environments. The instructors in only three courses specified their teaching philosophy, such as problem-solving approach, participatory learning, and the combination of cooperative and self-directed learning. Five course websites had evidence of providing students with a diverse range of activities in both online and face-to-face modalities (e.g., online project presentation, in-class or online quizzes, Moodle polls, online discussions, hands-on exercises, group projects, reading responses, critical reflections etc.). Most course websites contained various multimedia learning objects, such as video lecture recordings, lecture notes, course readings, links to online websites, articles, or videos, and others. One course provided students with entertainment elements which were course related (i.e., joke of the week, video of the week). Most course websites used a variety of Moodle tools for instructors and students for learning and interaction purposes:

- Course announcements and discussion forums were utilized by all courses;
- Quiz, Choices, and Chat-Room – utilized by four different courses;
- Wiki as private space was integrated in two course websites;
- Online submission for assignments – used in four course websites;
- Turnitin – used in only one course;
- Moodle Book – used in only one course.

Appendix D displays a quantitative summary of how many course websites produce evidence in relation to Category Two.

3.3 Communication, interaction, and collaboration

As mentioned above, all courses used a variety of tools to facilitate communication – course announcement forums, discussion forums, chat rooms, and wikis. All instructors encouraged their students to interact with each other and with the instructor within Moodle using discussion forums for general course-related issues. Students were asked to introduce themselves in only one course.

While all instructors used extensively a general discussion forum (for discussion of course-related issues), only four courses showed evidence of creating opportunities to foster student interaction with the course content. For instance,

- students were asked to listen to video recordings and take notes on lectures within Moodle;
- students discussed course material in discussion forums organized by groups;
- weekly discussions of course readings were held;
- private discussion forums or online chats were utilized to facilitate students collaboration on group projects;
- students were encouraged to participate in a ‘bonus’ discussion board, an optional activity to gain an additional points towards their final grade.

When examining the content of the discussion forums, we noted that few instructors managed to organize students' discussions in a clearly defined forum. Most forums, especially those where students interact with course content, contained multiple discussion threads making it difficult to follow the stream of collective exchanges (e.g., students shared their responses in separate threads within one discussion topic). Despite some challenges with the organization of discussion forums, content-related discussions proved to be highly interactive. Three courses integrated a chat room with private access to facilitate student-to-student interaction. In a number of discussions, we observed active participation of instructors who either answered students' concerns or contributed to students' knowledge through their postings.

In regard to group work, only six course websites produced evidence of this activity. All these courses provided a statement as to the group's overall task and stated expectations of group participation. For instance, one course instructor organized group work by placing students in three different 'learning teams' (aka discussion forums) to work on an online project activity. In another course, the instructor allocated a special place on Moodle where all the information regarding a group project was placed; students also used Wiki in a private mode while working on their group projects.

Appendix E displays a quantitative summary of how many course websites produce evidence in relation to Category Three.

3.4 Learner support and resources

A few course websites gave evidence of providing students with learning support and resources. Interestingly, only four instructors provided links to program information or institutional policies in their syllabi and only two of them had links in a designated area (e.g., links to program information, academic integrity resources, special needs services etc.).

Only three courses integrated Moodle's list of links to tutorials and other Moodle support (e.g., getting started, recommended browsers, links to technical support). However, none of those links were working at the time of our evaluation. One instructor uploaded tutorials for WebCT, instead of Moodle. Another instructor had a number of resources related to Moodle (e.g., how to update profile) which were dispersed through the website, rather than grouped in a designated space.

Six courses integrated Moodle-provided list of links to the York library, tutoring center, and other resources. Four course websites provided a customized list of course-specific resources (e.g., support on how to succeed in a project, how to access files from home, etc.), but, again, those resources were located in different areas throughout the website.

Appendix F displays a quantitative summary of how many course websites produce evidence in relation to Category Four.

3.5 Summary

Overall, most course websites were easy to navigate and designed in an appropriate format. Yet only four course websites met most of the criteria of the four evaluation categories discussed in this report. The aesthetic and instructional designs of these four course websites presented and communicated clearly course information to the student and provided evidence of high interactivity as part of the online component.

4. Student Responses to Blended Learning

In this section, the results of the student survey on blended learning are presented under the headings of: Increase York's Ability to Respond to Enrolment Pressures; Provide Better Experience for Commuter Students; Better Engage Students; and Improve Student Learning. Under each heading quantitative summaries to the multiple choice items and qualitative summaries of student written comments are given. Mean and standard deviations on all of them are provided in Appendix H.

4.1 Increase York's ability to respond to enrolment pressures

Multiple choice responses

Five survey items addressed York's ability to respond to enrolment pressures. Three items dealt with student satisfaction with their blended course and two dealt with cost factors. From Table 3 below, it can be seen that over two-thirds of students indicated that they were satisfied with their course (Q1 73.1% Agree/Strongly Agree) and slightly fewer would take another blended course (Q2 69.7% A/SA). When asked to choose their preferred format of instruction, more than twice as many chose the blended format (57.6%) over traditional face-to-face lectures (27.6%). Noteworthy was that only 14.7% chose entirely online.

Two survey items related to costs associated with blended learning. Students were moderately negative about their willingness to pay an extra $15 associated course fee to be able to download and keep video recordings of their lectures (Q27 48.7% Disagree/Strongly Disagree). The second item dealt with York technical support which would be an additional cost to the university if the blended courses required additional support. Fortunately, a sizable group of students did not seek any technical support for their blended course as 40.3% responded Not Applicable to Q7, while those that did seek support were mainly neutral or positive about the quality of support they received.

Table 3: Students Responses to Questions Relating to Enrolment Pressures (%)

Survey Item	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Q1 (overall satisfied)	3.2	10.9	14.9	43.0	28.1
Q2 (I'd take another course)	7.7	9.5	12.7	32.1	37.6
Q27 (extra $15 fee for video lectures)	27.3	21.4	18.6	15.9	15.9
Q7 (York tech support)*	5.4	7.2	28.5	11.3	7.2
Q23 (course format preference)	Entirely face to face – 27.6 | Blended format – 57.6 Entirely online – 14.7				

* 40.3% responded as "Not Applicable"

Written comments

Students wrote 11 comments related to Q1 about their satisfaction of which 9 were positive and 2 were negative. Typical positive comments were:

- I am really happy and satisfied with the way this course is designed. I am enthusiastic about learning about opinions of other students in the course during online discussions.

- I enjoyed this blended learning course … overall great learning opportunity.

The 2 negative comments about this item were scathing: one student warned York not to go down the blended learning path, the other placed the blame squarely on the instructor calling the course "not structured" properly and that "teachers should be more trained."

Only two comments, both positive, were written about taking another blended course (Q2). With regard to Q23 about format choice, 7 comments were made that dealt largely with student preferences for one format over the other two. For example, one student was concerned about their own time management skills in a blended course saying: "Not having class makes me forget about the material, [I] leave all my learning to the last minute." Another preferred the classroom interaction of fully face-to-face classes. One student liked the blended format but felt there were "organizational and instructional deficits" in the course and that expectations were not clear. No comments were made with respect to technical support (Q7) or about a course fee (Q27).

Summary

From the above responses a solid majority of students appear to favour blended learning over fully online or lecture only courses. The main caveat in York expanding blended learning in order to meet enrolment pressures is that instructors must be more adequately prepared to teach in this format and that they make their course expectations and the format clear to students. Students do not appear to need significant technical support, so scaling up support will not likely need to be fully proportional to blended enrolment increases and some support costs can be avoided. At the same time the university should not expect to fund a portion of the expansion through associated course fees without student opposition.

4.2 Provide better experience for commuter students

Multiple choice responses

Responses to the seven survey items related to improving commuter students' university experience are given in Table 4. The responses suggest that only about a third of students are not working (Q30 33.9%), while most work 10-19 hours per week. Therefore, it is not surprising that 79.1% responded to Q8 that they agreed or strongly agreed that a benefit of blended learning is that they do not have to come to campus as often. A large number (Q9 72.2% A/SA) also indicated that taking a blended course results in less travel time and lower commuting expenses. At the same time two-thirds responded that their course Moodle sites appeared to provide them with better access to course content compared to traditional courses (Q3 66.5% A/SA). Fewer than a quarter of the respondents indicated that they felt isolated in their blended course (Q15 22.8% D/SA).

Other aspects of students' blended experience seemed less positive. Students were almost evenly divided on Q21about whether blended courses required more time and effort. They were also fairly evenly divided on Q14 about whether they feel more connected with other students, however over a third (36.8%) were neutral on the question.

Table 4: Students Responses to Questions on Better Experience for Commuter Students (%)

Survey Item	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Q8 (convenience of not having to come to campus)	2.3	6.8	11.4	32.3	46.8
Q9 (reduced travel and expenses)	5.0	7.3	14.2	26.5	45.7
Q3 (improved access to content)	5.0	11.3	16.7	40.3	26.2
Q21 (more time and effort required)	12.4	24.8	27.5	24.8	10.1
Q14 (feel connected with others)	11.4	19.5	36.8	22.7	8.6
Q15 (feel isolated)	19.6	32.9	23.3	15.5	7.3
Q30 (employment workload)	Not working – 33.9 | 1-9 hours – 17.9 | 10-19 hours – 20.6 20-29 hours – 18.8 | 30-39 hours – 4.1 | 40+ hours – 4.6				

Written responses

Thirteen written comments were made that related to improving the experience of commuter students. There were 5 comments concerning convenience and expense (Q8|Q9), 4 of which were positive and one was equivocal. For example, one student stated: "I actually enjoyed not having to come to class every week and being able to save money." The equivocal student liked the convenience of blended, but didn't feel it was better than face-to-face. The remaining 8 comments dealt with effort (Q21) and isolation (Q14|15) and opinions were divided on the merits of blended learning in this regard. A representative positive comment was: "Enjoyed flexibility and availability to watch/listen to lectures, hands on learning experience with [a software tool]."

A negative comment worth quoting is:

> Because of the blended deal of this course, I did not get to know my teacher or peers well at all, and so I felt like I was working with strangers the whole time, which discouraged me from being totally involved with the course. I felt more anxious asking questions and writing assignments for a teacher I barely know because I never got to learn her style/personality. I felt isolated from my class and I hated the class because of it.

Summary

According to a clear majority of students, blended learning does address the convenience, cost, and time issues associated with working part time and commuting to campus. Of concern, however, is the possibility that blended courses may demand more time and effort from students than traditional versions of the courses, and that students may feel less connected to other students.

4.3 Better engage students

Multiple choice responses

Fifteen survey questions dealt with topics related to student engagement broadly defined (see Table 5). Of interest was that a majority of students felt that the online and face-to-face components enhanced each other (Q4 55.3% A/SA) and a plurality felt more engaged in their blended course compared to others they had taken (Q10 47.7% A/SA). Four of the questions, Q12, Q13, Q16, and Q17, focused quantity and quality on interaction with other students in the class and between students and instructor. On all four of these questions a plurality—but not a majority—of students agreed or strongly agreed that blended courses were superior. Students were very positive with their course Moodle site being well-organized and easy to navigate (Q5 72.6 A/SA) and they found the course resources helpful (Q6 74.1% A/SA).

When students were forced to choose their most preferred lecture format (Q24), a plurality chose a blend of face-to-face lectures and online videos of lectures. Surprisingly, a plurality preferred the online format for discussions (Q26 38.8 %) over face-to-face discussions or a combination of online and face-to-face. None of the courses had tutorials so Q25 was hypothetical, but it is of interest that most students responded that face-to-face tutorials were preferred (39.3%).

Written Responses

A total of 28 written comments were made that relate to engagement. They tended to be evenly split between positive and negative. Typical of the positive comments are:

- I really like how this course is both online and in class as it addresses different methods of learning. Coming to class just helps me maintain a routine and I like interaction in person. Also it isn't super long so I don't get bored or stop paying attention.
- I liked the course overall. The connection of online and in-class activities was successful and helped my grades balance out.

The negative comments dealt with excessive workload, poor online discussions, and a feeling of isolation. The following are quotations are representative of this:

- Virtual courses may be convenient sometimes but they are far below 'face-to-face' quality lectures. I worry these courses will become more popular because they are cost efficient and further dissociate me from other people.
- Online discussion is more of an obligation. It seems obvious that many students feel this way too.
- I don't appreciate the blended course because I am being pulled in too many directions. I am not always on my laptop

Table 5: Students Responses to Questions on Engagement (%)

Survey Item	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Q4 (online and F2F components enhanced each other)	5.5	14.3	24.4	33.6	21.7
Q10 (more engaged)	11.0	14.7	26.6	27.1	20.6
Q11 (likely to ask questions more)	7.4	13.0	36.1	29.2	13.9
Q18 (overwhelmed with information)	14.5	38.2	23.2	17.3	6.8
Q20 (feel anxious)	22.4	37.4	20.1	12.8	5.9
Q12 (S-S amount of interaction increased)	11.9	19.7	28.4	28.4	11.0
Q13 (S-S quality of interaction better)	9.3	17.1	33.3	29.2	10.2
Q16 (S-I amount of interaction increased)	8.6	25.0	25.9	27.3	13.2
Q17 (S-I quality of interaction better)	8.7	16.5	32.1	26.1	16.5
Q19 (trouble using technologies)	33.5	41.6	14.0	6.3	2.7
Q5 (Moodle organized)	4.1	6.4	15.5	35.5	38.6
Q6 (web resources helpful)	2.7	4.1	20.5	50.2	22.4
Q24 (lecture format preferred)	Attending lectures face to face – 35.5 | Accessing online videos of lectures – 23.5 | A combination of both - 41.0				
Q25 (tutorial format preferred)	Attending face to face – 39.3 | Participating online – 31.5 A combination of both – 28.3				
Q26 (discussion format preferred)	Class discussion – 30.6 | Online discussion – 38.8 A combination of both – 30.1				

Summary

Overall, a plurality of students appears to have been more engaged with blended learning but not a solid majority. This suggests that instructors have to seek ways to better engage students through more challenging and meaningful online activities. At the same time instructors need to make sure that they are not creating a greater workload than students normally would have had in a traditional lecture style course.

4.5 Improve student learning

Multiple choice responses

Only one question asked students their perceptions of whether the blended format helped improve their learning. This was Q22 in Table 6 below where just over half of students (56.1%) indicated that they agreed or strongly agreed that their understanding of key concepts of the course better than previous face-to-face courses. Slightly fewer students responded that they had strong time management skills (Q28 52.5% A/SA) and almost all said they were motivated to succeed (Q29 89.9%). The median reported GPA of students was in the B/B+ category.

Table 6: Students Responses to Questions on Learning (%)

Survey Item	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Q22 (improved understanding)	5.4	7.7	30.8	39.8	16.3
Q28 (strong time management skills)	5.0	13.7	28.8	33.3	19.2
Q29 (motivated to succeed)	.9	1.8	7.3	40.4	49.5
Q31 (GPA)	A/A+ (8.0-9.0) – 11.9 | B/B+ (6.0-7.9) – 56.2 | C/C+ (4.0-5.9) – 29.5 | D+ and less (less than 3.9) – 1.4 | NA – 1.0				

Written comments

Only one student made a comment related directly to learning. The student wrote: “This course has actually allowed me to have further understanding in other course; while at the same time not feeling overwhelming.”

Summary

In Table 2, the results show that 57.6% of students prefer the blended to either fully face-to-face or fully online. In this section slightly fewer (56.1%) report that they understand better in this format. Taken together, it appears that blended learning meets the learning preference for just over half of the students.

5. Instructor Responses to Blended Learning

Survey responses

The instructor survey responses were grouped under the same four criteria that were used for student responses. Responses are summarized in Tables 7 to 10 below. With regard to issues related to York's ability to respond to enrolment pressures by offering blended learning, two questions stood out in Table 7. First, 5 of the 7 instructors disagreed with the statement that their blended course took about the same amount of time as a fully face-to-face course (Q6). This suggests that the university will need to provide more than the normal instructional support to faculty who develop blended courses at least at the onset. The other question of interest is Q1 where 6 of the 7 instructors agreed or strongly agreed that their course gave them an opportunity to experiment with new teaching methodologies.

Table 7: Instructor Students Responses to Questions Relating to Enrolment Pressures

Survey Item	Disagree	Neutral	Agree	Strongly Agree
Q25 (course format preference)	Entirely face to face – 0 | Blended format – 5 | Entirely online –0 Missing – 2 (based on comments they inclined more to a face-to-face format)			
Q22 (students enjoyed this blended course more)	1	3	2	1
Q6 (With the support given by York, it took about the same amount of time to develop my blended course as it would have taken for a new fully face-to-face course)	5	0	2	0
Q8 (blended learning gives me more flexibility in my work schedule)	0	3	3	1
Q1 (designing a blended course gave me an opportunity to experiment with new teaching methodologies)	0	1	2	4
Q3 (designing a blended course gave me an opportunity to experiment with new technologies for teaching)	0	3	1	3
Q2 (York's pedagogical support to design this blended course was effective)	0	2	3	1
Q4 (York's technical to deliver this blended course was effective)	0	3	3	1
Q7 (TAs had adequate training to perform their duties in this course)	0	1	0	0

The responses to the one question (Q13) in Table 8 that related to providing a better experience for commuter students suggests that the face-to-face sessions helped students collaborate better online.

Several questions related to student engagement stood out in Table 9. There appeared to be better student-instructor interaction (Q16, 5A/2SA), instructors reported that teaching a blended

course was a time-consuming experience (Q11, 4A/2SA), and that instructors had sufficient technology skills (Q5, 4A/2SA). Responses to Q9, Q19, and Q20 suggest that overall instructors were not concerned about online participation, academic integrity, or attendance.

Table 8: Instructor Responses to Questions on Better Experience for Commuter Students

Survey Item	Disagree	Neutral	Agree	Strongly Agree
Q13 (students collaborated online better after building a sense of community in a face-to-face context)	0	3	4	0

Table 9: Instructor Responses to Questions on Engagement

Survey Item	Disagree	Neutral	Agree	Strongly Agree
Q12 (more engaged)	1	3	2	1
Q14 (S-S amount of interaction increased)	0	2	4	2
Q15 (S-S quality of interaction better)	0	1	4	1
Q16 (S-I amount of interaction increased)	1	0	4	2
Q17 (S-I quality of interaction better)	1	3	3	0
Q18 (assessment of student achievement differed)	2	0	5	1
Q11 (teaching a blended course is a time-consuming experience)	0	1	4	2
Q19 (concerned about academic integrity in this course)	(1 SD) 5	0	0	1
Q9 (students were reluctant to participate in online activities)	(1 SD) 4	2	0	0
Q20 (concerned about low student attendance in this course)	(2 SD) 1	1	2	1
Q5 (I have sufficient skills to make effective use of the technologies)	1	0	4	2

With regard to instructor opinions on student learning (Table 10), there was some consensus that students' overall performance was better (Q24, 4A/1SA). Also instructors did not feel that students lacked the ability to monitor their course progress (Q10, 2SD/3D).

Table 10: Instructor Responses on Questions Related to Learning

Survey Item	Disagree	Neutral	Agree	Strongly Agree
Q21 (quality of students' educational experience was better)	0	3	1	3
Q23 (I got to know students better)	2	1	2	2
Q24 (students' overall performance was better)	0	1	4	1
SQ10 (students lacked the ability to monitor their progress in this course)	(2 SD) 3	2	0	0

Additional instructor comments

Instructors had the opportunity to provide written comments on the survey as well as express their opinions in a group interview with their colleagues. Three themes were evident.

The first theme was about the strengths of blended learning and most comments related to online discussions. There was a sense that communication in blended courses is better because of both electronic and face-to-face exchanges. Instructors commented that they got to know their students names better too. They felt that students who did not feel comfortable speaking in class had the opportunity to participate online. Overall, they felt that students were more engaged and understood better than in previous fully face-to-face versions of their course, that they were better able to monitor students' work when using Moodle, and the infusion of electronic resources (e.g., lecture captures, videos, websites) into their courses was very helpful.

The second theme related to drawbacks of blended learning. Instructors noted that some students give priority to one mode of course delivery (i.e., face-to-face or online) over the other. They were also concerned about the extra amount of time required to develop a blended course and once the course starts to respond to students online and how to assess online participation. Another issue was that students need to know in advance that their course would be blended.

Lastly, some technical and support issues arose. One instructor was concerned that the document camera was not recorded as part of their lecture. Large Camastia Relay files couldn't be uploaded to Moodle and in some classrooms there were problems getting Camtasia to work properly. Instructors were generally laudatory for the support provided by Learning Technology Services, but some felt that they needed more support with specific issues with Moodle and Camtasia Relay and glitches with Moodle and Turnitin.

Summary

Although there were a small number of instructor respondents, the survey results suggest somewhat of a pattern; namely, that blended courses take more time to develop but they offer an opportunity for pedagogical experimentation. Instructors also reported that students did perform better overall and they were not concerned about academic integrity or lack of student engagement in their courses. The technical support issues mentioned above are of concern and need to be investigated further.

6. Overall Summary and Recommendations

In this report, we present the results of a study on the first year implementation of the blended learning project in LAPS and Health that was supported by the Academic Innovation Fund. Eight courses were redesigned and taught in the blended mode in the Winter 2012 session. The courses varied considerably in the portion of time devoted to online activities as a substitute for face-to-face sessions, ranging from a low of 27% of the course online to a high of 50%. The portion of a student's grade awarded for online work varied from two courses giving no marks for online activity to one course that based as much as 60% of the grade for online work.

We analyzed each course Moodle site on four criteria derived from the literature: (1) organization and layout; (2) instructional design and delivery; (3) communication, interaction, and collaboration; and (4) learner support and resources. With respect to the first criterion, the sites were logically organized for the most part although two sites used non-conventional layouts and several lacked internal consistency in naming of links. Navigation through the sites was straightforward except for one site that took an inordinate amount of time to load because of graphical content and some lecture capture video files were quite large for downloading. For instructional design, the second criterion, we noted some inconsistencies across courses such as different definitions or no definition of blended learning, academic integrity expectations or code of standards for online discussions not addressed, and nothing stated about technical requirements for full participation. A variety of tools were used to facilitate communication and interactions (criterion 3) – course announcement forums, discussion forums, chat rooms, and wikis. In discussion forums, students interacted with course content although it was difficult to follow a discussion because threads were not used effectively. Online group work was also evident in six courses. As for the fourth criterion, learner support and resources, most instructors did provide links to the York Library, Moodle tutorials, and course-specific and other resources. Some links were broken at the time of examining the sites and sometimes resources were found in different areas of the site.

Students and instructors were surveyed on their perceptions of blended learning. The surveys we developed were based on several relevant ones found in the literature supplemented by questions relevant to York University. Questions were grouped according to four criteria taken from the *York University eLearning Business Case*: (1) increase York's ability to respond to enrolment pressures; (2) provide better experience for commuter students; (3) better engage students; and (4) improve student learning. As for the first criterion, a solid majority of students appeared to favour blended learning over fully online or lecture only courses, which bodes well for York to increase its blended offerings. Instructors responded that preparing a blended course takes more time than a traditional lecture course, suggesting that instructor support is crucial for ramping up blended courses to respond to enrolment pressures. It appears that blended learning does provide a better experience for commuter students, the second criterion, as a clear majority of students like the convenience, cost, and reduced time pressures associated with working part time and commuting to campus. According to instructors, the face-to-face sessions helped students collaborate better online. With regard to better student engagement, the third criterion, a plurality of students appear to have been more engaged with blended learning but not a solid majority. This suggests that instructors have to seek ways to better engage students through more challenging and meaningful online activities. Instructors felt that they had more interaction with students than in traditional classes thus suggesting better engagement. For the final criterion about improved learning, over half of the students prefer the blended to either fully face-to-face or fully online courses and that they understand better in the

blended format. Instructors also reported that students did perform better overall and they were not concerned about academic integrity or lack of student engagement in their courses.

Given the above findings, we offer a number of recommendations below with respect to Moodle course design, students, and faculty.

6.1 Recommendations for Moodle course design

- Define blended learning for students and clearly outline expectations and grade weighting for the online components.
- Ensure that course design is internally consistent so that layout and navigation are predictable, resources are easy to find, all resource files are easy to open without additional software, and files not excessively large to download.
- Ask instructors to adopt one of two or three patterns for the online/face-to-face split of classes so that unoccupied classroom space can be utilized by other courses.
- Ask instructors adopt one of two or three standard course layout templates (which they can personalize) so that students who have taken Moodle courses previously are not confused by the website organization.

6.2 Recommendations concerning students

- Student satisfaction is reasonably high now with blended courses (73%), but a higher level of satisfaction should be targeted (e.g., 80%) and all decisions regarding course design and delivery should be made with this goal in mind.
- Ensure that students are properly oriented to studying in the blended mode and that they are aware of the course schedule and online requirements.
- Ensure that courses are structured clearly so that students can readily locate all needed course resources.
- Avoid the “course and a half syndrome” in which the online component is merely added on to the existing lecture-based course so that student workload is reasonable.
- Encourage online discussion in courses and instructor presence to create a more engaging environment.

6.3 Recommendations concerning instructors

- Encourage instructors to participate in the AIF Projects Blended Course to help them prepare to teach in the blended format.
- Encourage instructors to work with an instructional designer to review their course to determine the extent to which the course meets criteria such as the ones used in this report or *Quality Matters*.
- Assign to instructors who are preparing a blended course one or more instructional designers who specialize in supporting this instructional format.
- Investigate further the technical support issues identified by instructors with regard to Camtasia and Turnitin.

7. Appendices

Appendix A: Comparison of Evaluation Rubrics

	QOCI Rubric (2006)	Quality Matters Rubric (2011)	Chico's Rubric (2009)
Authors/Sponsors	Illinois Online Network (ION), University of Illinois	MarylandOnline, Inc.	California State University, Chico
Purpose	• to create a useful evaluation tool (rubric) to help faculty develop (design/redesign) and evaluate online courses (self-assessment); • to identify "best practices" in online courses; • to recognize faculty, programs, and institutions that are creating quality online courses	• to evaluate the quality of online courses (as part of a systematic approach) • intended for peer review	• to assist instructors in revising their existing courses to the rubric's suggestions (self-assessment); • to identify exemplary online instruction • to design a new course for online environment
Evaluation categories	• Instructional Design • Communication, Interaction, & Collaboration • Student Evaluation and Assessment • Learner Support & Resources • Web Design • Course Evaluation	• Course Overview and Introduction • Learning Objectives (Competencies) • Assessment and Measurement • Resources and Materials • Learner Engagement • Course Technology • Learner Support • ADA Compliance	• Learner Support & Resources • Online Organization & Design • Instructional Design and Delivery • Assessment & Evaluation of Student Learning • Innovative Teaching with Technology • Faculty Use of Student Feedback

Appendix B: Moodle Course Website Evaluation Checklist

Evaluation Criteria	Checklist items to interpret criteria
1. Course website organization and layout design Refers to the use of Web pages, graphics, multimedia, and accessibility standards in the web pages of a course under the course instructor's control and within the Moodle specifications[1]	
1.1 Ease and clarity of interface	• [2]The layout of the course website is well-organized throughout the site. • [1]Font type, size, and color are readable and consistent throughout the site. • [2]Aesthetic design presents and communicates course information clearly throughout the course. • [2]All web pages are functionally consistent throughout the course website. • [1]The course website is designed with the use of additional frames (or templates), other than those within the Moodle.
1.2 Ease and clarity of navigation	• [2]The course website is easy to navigate. • [1]Navigation cues are present and clearly identifiable. • [1]Course has no broken links. • [1]Hyperlinks open in appropriate windows or frames that do not confuse users.

1.3 Use of images and multimedia	• [2]All web pages are visually consistent throughout the course website.
	• [1]Images meet minimum standards.
	  o Images are clear.
	  o Image files are optimized for efficient loading.
	  o Use of animated GIFs is limited to only those that contribute to the learning experience – supporting the course content.
	• [1]*Audio files meet minimum standards* in the following areas:
	  o Audio quality is clear.
	  o Audio file length is adequate to meet the goals of the activity.
	  o A written transcript is provided with all audio files.
	  o Audio file length is adequate to meet the goals of the activity without adding unnecessary information.
	  o Audio player required is compatible with multiple operating systems.
	• [1]*Video files meet minimum standards* in the following areas:
	  o Video quality is clear.
	  o Video file length is adequate to meet the goals of the activity without being too large to restrict students' ability to download the file on computer.
	  o A written transcript is provided with all video files.
	  o Video file length is adequate to meet the goals of the activity without adding unnecessary information.
	  o Video player required is compatible with multiple operating systems and requires only a standard, free plug-in.

2. Instructional Design & Delivery Refers to the analysis of learning needs and the systemic approach to developing an online course in a manner that facilitates the transfer of knowledge and skills to the learner through the use of a variety of instructional methods, which cater to multiple learning styles, strategies, and preferences[1]	
2.1 Blended format, course website structure, and learning goals/objectives	• [2,3]Course website clarifies the relationship between the face-to-face and online components; it clearly delineates the role the online environment plays in the blended course. • [2]Course website contains extensive information about being a blended learner. • [1]Content is sequenced and structured in a manner that enables learners to achieve the stated goals. • [2]Students can clearly understand all components and structure of the course. • [1]Course goals and objectives/outcomes are present and explicitly stated to the learner. • [1]Module objectives / outcomes are clearly presented to the learner and are aligned with the larger course objectives. • [1]Purpose of learning activities is clearly presented.
2.2 Course information and course website components (provided on Moodle course website)	• [1]A course description is provided. • [1]Instructor information is available to student with contact, biographical, availability information, and picture. • [1]Students are provided with a list of supplies such as textbooks and other instructional materials needed for the course. • [1]A clear concise list of modules and activities that will be completed within each of the course modules/chapters/topics is provided. [2]Learning activities are clearly integrated. • [1]Grading policy is provided including grading scale and weights. • [1]Calendar of due dates and other events is provided. • [1]A list of technical competencies necessary for course completion is provided. • [1]A list of technical requirements such as connection speed, hardware, and software is provided. • [1, 3]A Code of Conduct including netiquette standards (i.e., for online discussions, email, and other forms of communication), or a link to current policies is provided. • [1, 3]Academic integrity expectations are clearly stated, or a link to current policies is provided.
2.3 *Instructional strategies and use of multimedia*	• [1,2]A variety of teaching methods is applied and innovatively enhance student learning, and interactively engage students. • [2]Course provides multiple visual, textual, kinesthetic and/or auditory activities to enhance student learning and accessibility. • [1,2]Varieties of multimedia elements and/or learning objects, accommodating multiple learning styles, are available throughout the course.

3. Communication, Interaction, & Collaboration addresses how the course design, assignments, and technology effectively encourage exchanges amongst the instructor, students, and content[1]	
3.1 Interaction	• [3]Students are asked to introduce themselves to the class. • Course uses a variety of technology tools to appropriately facilitate communication. • [1,2]Learning activities and other opportunities are developed to foster *Student-Student* communication and/or collaboration. • [1,2]Learning activities and other opportunities are developed to foster *Student-Instructor* communication and/or collaboration. • [1,2]Learning activities and other opportunities are developed to foster *Student-Content* interaction.
3.2 Discussions	• [1]Course offers separate forums for Community, Course Questions, and Content. • [1]Discussions are organized in clearly defined forums and/or threads.
3.3 Group work	• [1]A statement of the group's overall task is provided with clear and concise outcomes that are appropriate, reasonable, and achievable. • [1]Benchmarks and expectations of group participation are clearly stated. • [1]A statement of how, when, and where the final product will be delivered is provided.
4. Learner Support & Resources refers to program, academic, and/or technical resources available to learners[1]	
4.1 Institutional/program support and resources	• [1]Links to institutional/program information and/or policies and procedures are provided. • [1]Links to tutorials and other CMS Support sites are provided. • [1]Links, E-mail Addresses, and/or phone numbers to technical support are provided. • [1]Statement of ADA Compliance and request for special services is provided.
4.2 Academic support and resources	• [1]Course provides a variety of course-specific resources. • [1]A list of academic resources with links to York's library, tutoring center, counselling services and other resources is provided.

Notes: [1]Illinois Online Network (2006). Quality Online Course Initiative (QOCI) Rubric & Checklist. Retrieved February 09, 2012, from http://www.ion.uillinois.edu/initiatives/qoci/rubric.asp

[2]California State University, Chico (2009). The Rubric for Online Instruction. Retrieved February 09, 2012, from http://www.csuchico.edu/tlp/resources/rubric/rubric.pdf

[3]Maryland Online Inc. (2011). Quality MattersTM Rubric Standards 2011-2012 edition with Assigned Values. Retrieved February 09, 2012, from http://www.qmprogram.org/files/QM_Standards_2011-2013.pdf

Appendix C: Category One: Course Website Organization and Layout Design (n=8)

Criteria	# of websites
1.1 Ease and clarity of interface	
The layout of the course website is well-organized throughout the site.	6
Font type, size, and color are readable and consistent throughout the site.	7
Aesthetic design presents and communicates course information clearly throughout the course.	4
All web pages are functionally consistent throughout the course website.	4
The course website is designed with the use of additional frames (or templates), other than those within the Moodle.	1
1.2 Ease and clarity of navigation	
The course website is easy to navigate.	7
Navigation cues are present.	5
The course website has no broken links.	7
Hyperlinks open in appropriate windows that do not confuse users.	5
1.3 Use of images and multimedia	
All web pages are visually consistent throughout the course website.	3
Images meet minimum standards.	3
Audio and/or video files meet minimum standards.	3*

Note: * only four websites include video recordings of lectures

Appendix D: Category Two: Instructional Design and Delivery (n=8)

Criteria	# of websites
2.1 Blended format, course website structure, and learning goals/objectives	
Course website clarifies the relationship between the face-to-face and online components; it clearly delineates the role the online environment plays in the blended course (format of blended learning)	5
Course website contains extensive information about being a blended learner.	0
Course content is sequenced and structured in a manner that enables learners to achieve the stated goals and learn the content.	7
Students can clearly understand all components and structure of the course.	7
Course goals and objectives/outcomes are present and explicitly stated to the learner.	8
Module objectives / outcomes are clearly presented to the learner and are aligned with the larger course objectives.	2
Purpose of learning activities is clearly presented.	4
2.2 Course information and course website components (provided on Moodle course website)	
A course description/outline is provided.	8
Instructor information is available to student with contact, biographical, availability information, and picture.	8
Students are provided with a list of supplies such as textbooks and other instructional materials needed for the course.	8
A clear concise list of modules and activities that will be completed within each of the course modules/chapters/topics is provided.	7
Grading policy is provided including grading scale and weights.	8
Calendar of due dates and other events is provided.	8
A list of technical competencies necessary for course completion is provided.	0
A list of technical requirements, e.g., connection speed, hardware, and software is provided.	0
A Code of Conduct including netiquette standards (i.e., for online discussions, email, and other forms of communication), or a link to current policies is provided.	3
Academic integrity expectations are clearly stated, or a link to current academic integrity policies is provided.	7
2.3 Instructional strategies and use of multimedia	
A variety of teaching methods is applied and innovatively enhance student learning, and interactively engage students.	8
Course provides multiple visual, textual, kinesthetic and/or auditory activities to enhance student learning and accessibility.	8
Varieties of multimedia elements and/or learning objects, accommodating multiple learning styles, are available throughout the course.	8

Appendix E: Category Three: Communication, Interaction, & Collaboration (n=8)

Criteria	# of websites
3.1 Interaction	
Students are asked to introduce themselves to the class.	1
Course uses a variety of technology tools to appropriately facilitate communication.	5
Learning activities and other opportunities are developed to foster Student-Student communication and/or collaboration.	8
Learning activities and other opportunities are developed to foster Student-Instructor communication and/or collaboration.	8
Learning activities and other opportunities are developed to foster Student-Content interaction.	4
3.2 Discussions	
Course offers separate forums for Community, Course Questions, and Content.	8
Discussions are organized in clearly defined forums and/or threads.	6
*3.3 Group work**	
A statement of the group's overall task is provided with clear and concise outcomes that are appropriate, reasonable, and achievable.	6
Benchmarks and expectations of group participation are clearly stated.	6
A statement of how, when, and where the final product will be delivered is provided.	6

Note: * only six course websites produce evidence of group work

Appendix F: Category Four: Learner Support and Resources

Criteria	# of websites
4.1 Institutional/ program support and resources	
Links to institutional/program information and/or policies and procedures are provided.	4
Links to tutorials and other CMS Support sites are provided.	3
Links, E-mail Addresses, and/or phone numbers to technical support are provided.	3
Statement of ADA Compliance and request for special services is provided.	4
4.2 Academic support and resources	
Course provides a variety of course-specific resources.	4
A list of academic resources with links to York's library, tutoring center, counselling services and other resources is provided.	6

Appendix G: Blended Learning Survey for Students

Blended Learning Survey for Students

Please indicate your response by darkening the appropriate bubble on the answer sheet. Your frank opinions will help us improve the design of courses at York in future. Your answers will not be seen by your course instructor.

How much you agree or disagree with the following statements:	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	N/A
1. Overall, I am satisfied with this course.	A	B	C	D	E	F
2. Given the opportunity I would take another course in the future that has both online and face-to-face components.	A	B	C	D	E	F
3. This course experience has improved my opportunity to access and use the class content.	A	B	C	D	E	F
4. The online and face-to-face course components of this course enhanced each other.	A	B	C	D	E	F
5. The course Moodle site is well organized and easy to navigate.	A	B	C	D	E	F
6. The web resources in this course are helpful.	A	B	C	D	E	F
7. When I encounter a problem with the use of the technologies in this course, the York technical support service helped me with my problem in a timely and effective manner.	A	B	C	D	E	F
Compared to typical face-to-face courses I have taken…	**Strongly Agree**	**Agree**	**Neutral**	**Disagree**	**Strongly Disagree**	**N/A**
8. …this course offered the convenience of not having to come to campus as often.	A	B	C	D	E	F
9. …this course allowed me to reduce my total travel time each week and related expenses.	A	B	C	D	E	F
10. …I am more engaged in this course.	A	B	C	D	E	F
11. …I am likely to ask questions in this course.	A	B	C	D	E	F
12. …I feel that the *amount* of my interaction with *other students* in this course increased.	A	B	C	D	E	F
13. …I feel that the *quality* of my interaction with *other students* in this course was better.	A	B	C	D	E	F
14. …I feel connected with other students in this course.	A	B	C	D	E	F
15. …I feel isolated during this course.	A	B	C	D	E	F
16. …I feel that the *amount* of my interaction with *the instructor* in this course increased.	A	B	C	D	E	F
17. …I feel that the *quality* of my interaction with *the instructor* in this course was better.	A	B	C	D	E	F
18. …I am overwhelmed with information and resources in this course.	A	B	C	D	E	F
19. …I have trouble using the technologies in this course.	A	B	C	D	E	F
20. …I feel more anxious in this course.	A	B	C	D	E	F
21. …this course required more time and effort.	A	B	C	D	E	F
22. …this course has improved my understanding of key concepts.	A	B	C	D	E	F

Course Format Preferences

23. If the same course is being offered in different formats, which course format would you prefer?

    A. Entirely face-to-face course format
    B. Blended course format (meaning some face-to-face activities are replaced with online activities)
    C. Entirely online course format (with no face-to-face class time)

24. If you had a choice between attending lectures face-to-face or accessing lectures online which would you choose?
    A. Attending lectures face-to-face
    B. Accessing online downloadable videos of lectures
    C. A combination of both

25. If you had a choice between attending tutorials face-to-face or participating in tutorials online which would you choose?
    A. Attending tutorials face-to-face
    B. Participating in tutorials online
    C. A combination of both

26. If you had a choice between participation in classroom discussion or online discussion which would you choose?
    A. Class discussion
    B. Online discussion
    C. A combination of both

How much you agree or disagree with the following statements:	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	N/A
27. Video recordings of the course lectures that I could download for my personal use would be worth an extra $15 course fee to me.	A	B	C	D	E	F
28. I have strong time management skills.	A	B	C	D	E	F
29. I am motivated to succeed.	A	B	C	D	E	F

Additional Information

30. How many hours a week on average are you employed?
    A. I'm not working
    B. 1-9 hours
    C. 10-19
    D. 20-29
    E. 30-39
    F. 40+

31. What is your current overall GPA?
    A. A/A+ (8.0-9.0)
    B. B/B+ (6.0-7.9)
    C. C/C+ (4.0-5.9)
    D. D+ and less (less than 3.9)

Please share any additional comments or suggestions about this course.

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Thank You!

Appendix H: Means and Standard Deviations of Student Agree/Disagree Statements

Question	Agree/Disagree Statements	N	Mean	Std. Deviation
1	I am satisfied with this course	221	3.82	1.059
2	I would take another course in the future	220	3.83	1.249
3	improved my opportunity to access and use class content	221	3.70	1.149
4	Online and F2F components enhanced each other.	217	3.50	1.167
5	Moodle is well organized and easy to navigate	220	3.98	1.081
6	Web resources are helpful	219	3.85	.907
7	York technical service helped me with my problem	221	1.90	1.764
8	Course offered the convenience	220	4.13	1.058
9	Course allowed me to reduce my travel time and related expenses	219	3.96	1.252
10	I am more engaged in this course	218	3.32	1.261
11	I am likely to ask questions in this course	216	3.28	1.115
12	Amount of my interaction with other students increased	218	3.06	1.202
13	Quality of my interaction with other students was better	216	3.11	1.148
14	I feel connected with other students	220	2.95	1.144
15	I feel isolated during this course	219	2.54	1.216
16	Amount of my interaction with the instructor increased	220	3.11	1.178
17	Quality of my interaction with the instructor was better	218	3.25	1.174
18	I am overwhelmed with information and resources	220	2.64	1.133
19	I have trouble using the technologies	221	1.98	1.024
20	I feel more anxious in this course	219	2.38	1.177
21	This course required more time and effort	218	2.94	1.200
22	This course has improved my understanding of key concepts	221	3.54	1.029
27	Video recordings would be worth an extra $15 course fee	220	2.69	1.448
28	I have strong time management skills	219	3.48	1.102
29	I am motivated to succeed	218	4.36	.774

Appendix I: Blended Learning Survey for Faculty

Please circle your response to each question and answer the open-ended questions as appropriate. Be assured that your responses will be kept confidential.

In this section, please rate the following statements:	**Strongly Agree**	**Agree**	**Neutral**	**Disagree**	**Strongly Disagree**	**N/A**
Designing a blended course gave me an opportunity to experiment with new teaching methodologies.	**A**	**B**	**C**	**D**	**E**	I
The pedagogical support given by York to help me design this blended course was effective.	**A**	**B**	**C**	**D**	**E**	I
Designing a blended course gave me an opportunity to experiment with new technologies for teaching.	**A**	**B**	**C**	**D**	**E**	I
The technical support given by York to help me deliver this blended course was effective.	**A**	**B**	**C**	**D**	**E**	I
I have sufficient skills to make effective use of the technologies in this course.	**A**	**B**	**C**	**D**	**E**	I
With the support given by York, it took about the same amount of time to develop my blended course as it would have taken for a new fully face-to-face course.	**A**	**B**	**C**	**D**	**E**	I
The TAs had adequate training/preparation to perform their duties in this course. (Circle N/A if not applicable.)	**A**	**B**	**C**	**D**	**E**	I
Blended learning gives me more flexibility in my work schedule.	**A**	**B**	**C**	**D**	**E**	I
Students were reluctant to participate in online activities in this course.	**A**	**B**	**C**	**D**	**E**	I
Students lacked the ability to monitor their progress in this course.	**A**	**B**	**C**	**D**	**E**	I

Any Suggestions

What suggestions, if any, do you have for improving support in (a) designing and (b) implementing blended courses?

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Compared to typical face-to-face courses I have taught…	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	N/A
... teaching a blended course is a time-consuming experience.	A	B	C	D	E	F
… students are more engaged in this blended course.	A	B	C	D	E	F
… students collaborated online better after building a sense of community in a face-to-face context.	A	B	C	D	E	F
… I feel that the *amount* of *student-to-student* interaction in this blended course increased.	A	B	C	D	E	F
… I feel that the *quality* of *student-to-student* interaction in this blended course was much better.	A	B	C	D	E	F
… I feel that the *amount* of my interaction with *students* in this blended course increased.	A	B	C	D	E	F
… I feel that the *quality* of my interaction with *students* in this blended course was much better.	A	B	C	D	E	F
… assessment of student achievement in this blended class differed.	A	B	C	D	E	F
... I was concerned about academic integrity in this course.	A	B	C	D	E	F
... I was concerned about low student attendance in this course.	A	B	C	D	E	F
... the quality of students' educational experience in this blended course was better.	A	B	C	D	E	F
... students enjoyed this blended course more.	A	B	C	D	E	F
... I got to know students better in this blended course.	A	B	C	D	E	F
... students' overall performance was better.	A	B	C	D	E	F

Course Format Preferences

In the future, if you had a choice, which format would you consider teaching this course?

A. Entirely face-to-face teaching
B. Blended teaching (meaning some face-to-face activities are replaced with online activities)
C. Entirely online teaching (with no face-to-face class time)

Please share any additional comments or suggestions about your course.

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Thank You!