

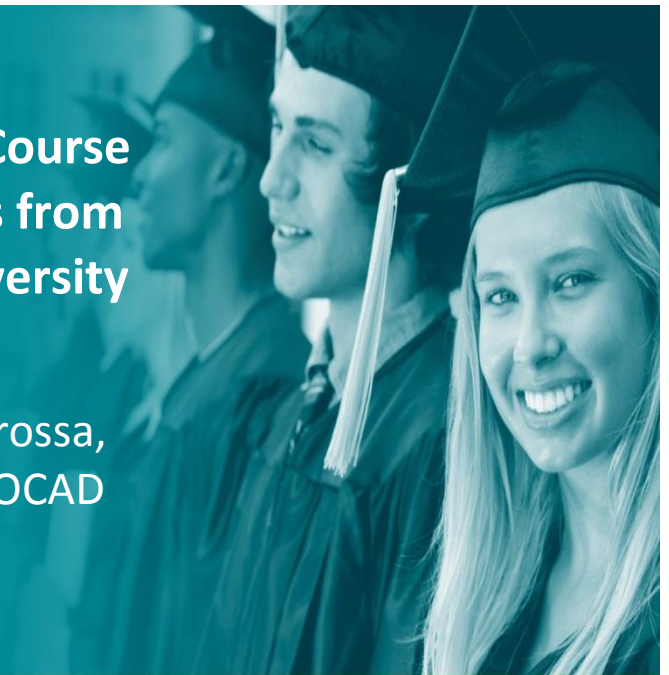


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Cross-Disciplinary Collaborative Course Design: Successes and Challenges from an Implementation at OCAD University

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Executive Summary

This report presents the findings of a research project undertaken at OCAD University (OCAD U) from 2013 to 2014 examining the implementation of a cross-disciplinary collaborative course design process. While there is some research that investigates collaborative course design, especially in the development of courses for online and hybrid delivery, there is little research to date that investigates cross-disciplinary collaborative course design, in which faculty members from different disciplines come together to combine their expertise to create more robust resources for student learning. The research was undertaken in the development of professional practice courses offered in the Winter 2014 term to students enrolled in the Faculty of Design. Online learning modules were developed by faculty members from across multiple disciplines for delivery on the Canvas learning management system (LMS) in studio-based courses. Collaboration between faculty members was led and facilitated by an instructional support team with expertise in hybrid and fully online learning from OCAD U's Faculty & Curriculum Development Centre.

Professional practice courses are required in the fourth year of most programs in the Faculty of Design. Although distinct courses in each program, they share similar learning outcomes and curricular goals. Additionally, these courses are taught by faculty members who draw on their own personal and professional experience when teaching the course, expertise often relevant to courses in other design disciplines, making these courses an ideal testing ground for a cross-disciplinary collaborative course development process. In addition, there now exist new models of learning utilizing hybrid e-learning and in-class delivery that can provide students with more robust resources for learning the operational, organizational, regulatory/legal, ethical, communications and marketing aspects of professional practice that are common across design and innovation professions, as well as address the specifics of individual professions.

In 2013, the cross-disciplinary collaborative course design model was developed for professional practice courses for five of the six programs in the Faculty of Design. Content developers included course instructors already teaching a professional practice course in one of the Faculty of Design programs. Through the process of module development, the content developers were guided by a project coordinator and an educational developer with expertise in hybrid and online learning. A faculty coordinator was responsible for encouraging and guiding faculty participation in the initiative. Faculty teaching professional practice courses in the winter term of 2014 were given the option to choose modules for inclusion in their courses.

The following report describes and evaluates the collaborative course design process in order to inform future collaborative course design initiatives at OCAD U and at other universities and colleges. Specifically, the research was undertaken to investigate how collaborative course development can be facilitated and supported at an administrative level, and what unanticipated challenges might arise; to evaluate the benefits and challenges in the course development process of collaboration between faculty members from different disciplines, and between faculty members and an instructional support team; and to document both faculty and student experience in the course delivery.

Methodology

The study employed both qualitative and quantitative research methods to examine the potential of collaborative course design to benefit student learning. Qualitative feedback was collected from faculty members working as content developers and course instructors. Content developers were interviewed one-on-one both during and after the process of course development and these interviews were recorded and transcribed. Course instructors incorporating the modules into their classes were also interviewed while teaching the courses. Quantitative and qualitative feedback from the students in the participating courses was collected through the use of a questionnaire delivered mid-way through the course.

Results and Discussion

The most significant achievement was the fact of collaboration between faculty members and the instructional support team. Faculty members working as content developers built their individual pedagogy through collaboration with their colleagues and with the instructional support team while indicating their desire to have more such opportunities to give and receive feedback on course development. They benefitted particularly from strategies for structuring and delivering content in the LMS, especially the use of active-learning strategies for online learning that were seen to transfer back into and impact upon their teaching practice in other courses.

Challenges in the collaborative course design process included perceptions about the institutional motivation for developing technology-enabled learning, as well as more pragmatic issues of communication, planning and workload. The concerns expressed by content developers suggest the need for improved communication of guidelines and best practices for technology-enabled learning, including more developed training for teaching with the LMS. As a result of their experience, the content developers also indicated the need for very robust planning as well as organizational and time-management strategies. Another concern raised involving the perception of the quality of content produced by other content developers may have indicated the need for a more structured quality control process.

Feedback from students suggests that the use of the modules was a beneficial experience. Some concerns that were identified through this study include the lack of incentive for students to complete the modules online and concerns about the lack of disciplinary or industry-specificity of the content. The researchers observed that the modules appeared to work well in courses where fewer modules were selected for inclusion and when the module content was explicitly referenced in in-class learning.

Moving forward, the researchers recommend the development of clear guidelines for collaborative course development, including active-learning strategies for the integration of online course content into in-class teaching, making clear how and to what extent online course content should be incentivized. The researchers also recommend the development of a more rigorous evaluation process, including the use of quantitative measures and control groups, to study the impact of collaborative course design for hybrid delivery.

Introduction

The benefits of collaborative course design for both students and faculty have been well documented (Barrington, 2006; Ziegenfuss & Lawler, 2008; Fink & Fink, 2009). In the collaborative course design model, different course instructors work together in course design and development, drawing on their individual areas of expertise to create more robust resources for student learning. Students benefit from the wide range of faculty expertise, while faculty members enrich their own pedagogy by learning from their peers and often by collaborating with faculty developers. While collaborative course design and team-teaching often happens within departments and programs, to date there has been little research investigating the potential benefits of a *cross-disciplinary* collaborative course design process that brings together faculty members from different disciplines to combine their expertise in a cross-disciplinary course.

In this research project undertaken at OCAD University (OCAD U) from 2013 to 2014, the principles of collaborative course design were implemented in a cross-disciplinary collaborative course design process. The research was undertaken in the design of modules for professional practice courses for students enrolled in the Faculty of Design.

At OCAD U, professional practice courses are offered in five of the six program areas in the Faculty of Design and, though different, they share similar curricular goals. All Faculty of Design students, with the exception of students in the advertising program, are required to take one professional practice course in the third or fourth year of their programs (in advertising, professional practice is taught throughout the curriculum). These courses help students prepare for professional and career development post-graduation by developing, for example, their project development and marketing skills. While graphic design students will have different professional practice needs than material art and design or illustration students, there are many aspects of professional practice shared across the curriculum. Moreover, OCAD U faculty members bring different kinds of expertise to teaching professional practice; many run their own businesses, others work as freelance artists or designers, and so on. Such focused expertise would arguably prove beneficial to students outside of the programs in which those faculty members teach.

In the fall term of 2013, faculty members from multiple disciplines collaborated with an instructional support team to produce a series of learning modules related to aspects of professional practice such as starting a business and project management. A team of faculty members worked as content developers to develop a series of learning units or modules that reflected their particular areas of expertise. Faculty members who were course instructors in professional practice courses (some but not all of whom were also content developers) were then able to adopt the modules into their courses regardless of the program in which they were teaching. That is, the modules were not designed to be specific to a particular program. The modules were developed for delivery in the Canvas learning management system (LMS). Course instructors were free to choose one or more of the nine modules developed and were free to determine how they should be used, for example, whether their completion would be weighted in the final grade, whether students would complete them in or outside of class time, and so on. Ten professional practice courses were offered across four programs in the winter term of 2014 and the modules were adopted in seven of those courses.

The following report describes the cross-disciplinary collaborative course design initiative and evaluates the benefits for faculty working in both the course development and course delivery stages, as well as the benefits for students. The report provides a rich description of the collaborative course design process, including the steps taken and the successes and challenges of the process, in order to inform future cross-disciplinary collaborative course design initiatives.

Specifically, the goals of the research project were to investigate:

- administrative requirements in course development, with particular focus on the ways in which a project coordinator and instructional support team can facilitate and support faculty members during course development;
- unanticipated needs or challenges encountered in course development;
- what faculty members working in course development perceive to be the benefits or challenges of collaborating with colleagues outside their disciplines;
- how the Canvas LMS can help facilitate delivery of the course using a hybrid course model, specifically through the development of a series of stand-alone online learning modules that can be selected and imported into a course;
- what faculty members teaching the course perceive to be the benefits and challenges of teaching with the modules; and
- what students perceive to be the benefits or challenges of using the modules.

The study was funded by the Opportunities to Innovate Fund of the Higher Education Quality Council of Ontario (HEQCO) and through real and in-kind support provided by OCAD U.

Context

Collaborative Course Design

In the scholarship on collaborative course design, team teaching and learner-centred education, “collaborative course design” can refer to a variety of collaborative activities involving different participants ranging from faculty members with other faculty members (Barrington, 2006), faculty members with instructional design specialists (Ziegenfuss & Lawlor, 2008), and faculty members with students (Weimer, 2002). Typically, though, “collaborative course design” refers to collaboration between a course instructor who acts as a content expert and an instructional designer (Moallem, 2003; Bender, 2005; Ziegenfuss & Lawler, 2008; Palloff & Pratt, 2011). Very often, such collaborations are enabled by new technologies and learning management systems, especially in the development of fully online or hybrid modules or courses.

While the design of university courses is often a solitary activity and is treated as a normal part of an individual faculty member’s teaching obligations (Diamond, 2008), collaborative course design recognizes that learning takes place in “communities of practice” and that the responsibility for such *situated* learning is therefore shared by the entire community (Barrington, 2006). Recent research in integrated course design

thinking in particular concludes that there is a real “need for collective dialogue and assistance” (Fink & Fink, 2009, p.113) in the course design process.

The shared responsibility for learning is especially evident in the design of courses for hybrid or online delivery, which often occurs as a partnership between the faculty member as content expert and an instructional designer and technical support team (Palloff & Pratt, 2011). In the development of hybrid or online courses, the instructional designer works with the faculty member to design learning activities and assessments for the online environment that align to support students’ achievement of the course learning outcomes.

Even in the case of online course development facilitated by an instructional designer, however, courses are designed in relative isolation, with little to no discussion between faculty members teaching the same course or faculty members from different disciplines who may be teaching similar courses. For example, an instructor who is designing a research methods course in engineering would rarely, if ever, consult with instructors teaching research methods courses in architecture about their course design or teaching strategies, despite the real possibility for shared and overlapping course content and teaching approaches. A truly collaborative course design model, then, would recognize that communities of practice extend beyond and between disciplines, and that truly collaborative course design happens between faculty members across disciplines – collaboration that an instructional support team is well positioned to facilitate.

The process of collaborative course design might follow many different paths. In most cases, though, the process will begin with a needs assessment to consider what courses or learning units are sufficiently similar in their curricular goals and learning outcomes, where potential exists for faculty to work together to combine their expertise, and how the course will be delivered. Collaboration and consultation throughout the course development and course delivery stages are also integral to the success of the process. Through course development, faculty members come together to share the learning outcomes, course outlines, learning activities, and assessment methods used in their courses while looking for areas of similarity and overlap. Commonly, members of an instructional support team will facilitate the collaboration and provide instructional support. Faculty members working as content experts would then develop their own portions of the curriculum and return to the entire group to share and consult. Through course delivery, faculty members working as course instructors would arguably benefit from similar ongoing consultation and curricular evaluation, but a more formal process of collecting feedback from faculty and students is necessary to evaluate the success of the process and to develop the course moving forward.

Professional Practice Courses in the Faculty of Design at OCAD U

The teaching of professional practice at OCAD U was identified as an ideal test case for collaboration between faculty experts from different disciplines. In early 2013, the Faculty & Curriculum Development Centre was approached by the Faculty of Design about developing the professional practice courses offered in several programs.

At OCAD U, a professional practice course is required in the completion of five degree programs in the Faculty of Design. These are currently fourth-year or 400-level courses. Programs range from two-dimensional design, including illustration and graphic design, to three-dimensional programs in industrial

design, environmental design, and material art and design (in two specializations, fibre and jewellery). The one exception is the program in advertising, which has a strong emphasis on professional practice throughout its curriculum but does not have a dedicated professional practice course. In the winter term of 2014, a total of ten professional practice courses were taught in four of the programs.

The majority of the courses in the Faculty of Design are studio-based and students spend significant in-class time developing individual and collaborative studio projects. While the professional practice courses do not involve conventional studio projects as such, most of the course instructors teaching professional practice require their students to engage in such activities as preparing project proposals, developing portfolios and participating in mock job fairs.

Traditionally, professional practice courses are taught by one instructor and informed by the unique perspectives gained from their individual career experiences. Professional practice courses for design-oriented programs such as architecture, engineering and interior design are almost entirely offered within the isolation of specific programs with no benefit from collaborative course development, assessment of curriculum between instructors or through curriculum committees, or student exposure to the experiences specific to the unique career paths of multiple instructors.

In part, the reason for this is that design programs are often nested in separate faculty divisions that segregate programs and their curriculum management for program accreditation purposes even though they may share many commonalities in some subject areas, such as professional practice. The argument for this separation in professional practice courses tends to focus on the differences that exist between the professions. This distinct and isolated program approach, however, does not prepare students for careers that are increasingly interdisciplinary.

Despite their disciplinary differences, all of the professional practices courses at OCAD U share similar learning outcomes designed to help students develop and utilize their professional skills after graduation. Faculty members teaching the courses also bring different experiences and skills to their courses; some have started – even continue to run – their own businesses; others work freelance or for larger firms; some have very specific areas of expertise, such as copyright and intellectual property. Even though professional practice requires discipline-specific skills and knowledge, much of the expertise faculty members bring to their teaching crosses disciplinary boundaries. Given the similarity in curricular goals and learning outcomes, the professional practice courses were therefore identified in preliminary discussions between the Faculty of Design and the Faculty & Curriculum Development Centre as a potentially useful context for faculty members to work together in an innovative and collaborative course design process.

It was also recognized that the opportunity aligned with the new capabilities afforded by the Canvas LMS adopted across campus in 2012 and the university's growth areas in hybrid and online learning. The rationale was that new models of learning utilizing a hybrid of technology-enabled and in-class delivery can provide students with arguably more versatile resources for learning the operational, organizational, regulatory/legal, ethical, communications and marketing aspects of professional practice that are common among design and innovation professions, while also addressing the specific skills and knowledge required in individual professions.

One further rationale for the initiative was that the implementation of collaborative course design processes arguably has the potential to introduce a number of efficiencies into the course design process, which are particularly valuable in a context of declining fiscal resources. While additional faculty time is required for the initial collaboration and course redesign (Xu & Morris, 2007), once these course modules are developed less course preparation time is required for faculty members teaching these courses, freeing their time for other activities such as meeting with individual students, providing additional learning support, student advising, as well as the research and service components of their faculty roles. Access to modules that faculty members can use in their courses may also alleviate stress and increase course quality for part-time instructors who are allocated minimal funding to engage in course development and course preparation processes.

The Cross-Disciplinary Collaborative Course Initiative

As noted above, the cross-disciplinary collaborative course design model described above was developed for professional practice courses in five of the six programs in the Faculty of Design. The project was led by a project coordinator. An educational developer led and facilitated module development. Faculty members from the Faculty of Design participated in two stages, course development and course delivery (for an overview of the project, see the timeline in Table 1). Other participants in the research included a faculty coordinator responsible for hiring content developers for the modules and liaising with course instructors, and a researcher responsible for analyzing the data and writing the report.

Table 1: Timeline for the Cross-Disciplinary Collaborative Course Initiative in the Faculty of Design

January 2013	Initial discussions held between Faculty of Design and the Faculty & Curriculum Development Centre about professional practice course development
February	Application were made to HEQCO's Opportunities to Innovate Fund (approved for funding May 2013)
February to March	Educational developer and faculty coordinator defined process for course development
March	Program chairs in Faculty of Design identified twelve modules and recommended content for development
March to April	Content developers were hired to develop modules
March to May	Biweekly meetings with content developers were facilitated by project coordinator and educational developer to discuss and plan modules
June	Application was made to and approved by OCAD University's Research Ethics Board for Ethical Review of Research Involving Human Participants.
May to July	Faculty members working as content developers produced nine of the proposed twelve modules.
July	First interviews with faculty content developers, educational developer and faculty coordinator were conducted by project coordinator

January to April 2014	Seven professional practice courses employed the modules in the Winter term
February	Second interviews with faculty content developers were conducted by the project coordinator. Interviews with faculty teaching the professional practice courses were also conducted. Paper questionnaire was completed by students in all courses in which the newly developed modules were used
March to September	Data were analyzed and written report was prepared for submission to HEQCO

In the content development stage, faculty members were chosen from among course instructors already teaching a professional practice course in one of the Faculty of Design programs to work as “content developers,” with the exception of one content developer from outside of OCAD U who was brought in to provide expertise on intellectual property, licensing and contracts, and one faculty member teaching in the advertising program, again, which does not currently offer a professional practice course (Table 2). In the course delivery stage, faculty members who then taught a professional practice course using one or more of the modules are referred to here as “course instructors.” Three faculty members worked as both content developers in the content development stage and course instructors in the course delivery stage.

Table 2: Faculty Involved in Content Development and the Teaching of Professional Practice Courses in the Faculty of Design

Content developers	Faculty of Design program	Course instructors*
Content developer 1 (CD1)	Industrial design (INDS)	Course instructor 1 (CI1)
Content developer 2 (CD2)	Material art and design (MAAD)	Course instructor 2 (CI2)
Content developer 3 (CD3)	Material art and design (MAAD)	Course instructor 3 (CI3)
Content developer 4 (CD4)	Advertising (ADVR)	
Content developer 5 (CD5)	Law student	
	Graphic design (GDES)	Course Instructor 4 (CI4)
	Graphic design (GDES)	Course Instructor 5 (CI5)

*This list only includes course instructors who taught professional practice courses in the winter term of 2014 and who included the LMS course modules

Throughout the process of module development, the instructional support team led the initiative and facilitated the content development process through group and individual meetings. At biweekly meetings through March and April of 2013, the group moved from identifying learning outcomes to developing two rounds of module maps. Content developers self-selected which modules they would like and were qualified to develop from the list of modules provided by the Faculty of Design (Table 3; see also the module descriptions in Appendix A). The content developers were then guided individually through the process of developing their modules, before returning to a group discussion to present their modules at the end of May 2013 and then again in mid-July. During the entire process, the group had access to all the modules on Canvas and was invited at specific times to review the modules and provide email feedback. A faculty

coordinator, who was also a program chair in the Faculty of Design, was responsible for encouraging and guiding faculty participation in the initiative. The entire team met periodically through the development of the modules and also communicated via email. Most of the interactions, however, occurred between the content developers and the educational developer, especially with regard to the use of the LMS.

Table 3: LMS Modules for Professional Practice Courses in the Faculty of Design for Inclusion in the Winter 2014 Term

Modules available	Number of courses that included the module
World of Business (WB)	5
Starting a Business (SB)	4
Running a Business (RB)	3
Money (M)	3
Project Management (PM)	3
Business Ethics and Etiquette (BEE)	3
Licensing and Contracts (LC)	5
Intellectual Property (IP)	5
Business and Design: Two Cultures (BD)	5

The modules were developed according to the following framework and expectations set out by the dean of the Faculty of Design, in consultation with the program chairs and the instructional support team:

- The modules will be offered as a resource for the professional practice courses.
- Students should be able to complete each module in approximately one hour, excluding time spent exploring any suggested extra resources or supplementary materials provided.
- The modules will be self-contained, in that students will be able to complete them without needing to interact with other students or receive specific feedback from the course instructor.
- Although the modules are self-contained, best practices in teaching and learning encourage contact and discussion among students and between students and the instructor; as such, the modules have been developed to help students meet the course learning outcomes and can be easily integrated with the class activities of the professional practice courses.

Furthermore, the modules were designed for delivery in Canvas, the LMS adopted across OCAD U in 2012. In Canvas, course content can be organized into modules that include web pages for content, quizzes, assignments and discussion boards. The model is similar to what is sometimes referred to as the flipped classroom (Baker, 2000; Strayer, 2007), in which learning activity that is based primarily on content delivery is completed in an online learning environment, with the content learning then reinforced through problem-based activities in the classroom (Bull et al., 2012).

In our cross-disciplinary collaborative course design process, the content of the modules was delivered in relatively static text- and image-based webpages, and course instructors teaching professional courses with one or more of the modules embedded in the curriculum were not systematically required to use problem-based activities in the in-class environment. However, engagement with the content was encouraged through the use of case studies and examples (some of them very extensive), reflection activities, and video and online reading resources. Furthermore, learning in each of the modules was reinforced and evaluated by short quizzes.

The modules were prepared for inclusion in Faculty of Design courses in the winter term of 2014 (January to April). The modules were included by the three content developers teaching in the winter term, one in industrial design and two in material art and design (Table 4). Two other course instructors who were not involved in content development included modules in their courses, both in graphic design. Three course instructors chose not to participate. Course instructors from environmental design did not participate in the study as a result. Since the data collected were primarily qualitative, the courses that did not incorporate the professional practice modules were not included as control groups. Note also that the professional practice course for the illustration program is offered in the fall term only.

Table 4: Professional Practice Courses in the Faculty of Design Incorporating LMS Modules in the Winter 2014 Term

Course	Content developer/course instructor	Modules
GDES 4B06 Professional Practice for Graphic Designers (GDES 1)	CI4	SB
GDES 4B06 Professional Practice for Graphic Design (GDES 2)	CI5	SB
INDS 4B09 Professional Preparation (INDS 1)	CD1/CI1	BD WB M PM LC IP
INDS 4B09 Professional Preparation (INDS 2)	CD1/CI1	BD WB M PM LC IP
MAAD 3B47 Professional Practice for Material Art & Design (MAAD 1)	CD2/CI2	BD SB WB RB M BEE LC PM IP
MAAD 4B04 Professional Practice for Material Art & Design (MAAD 2)	CD3/CI3	SB BD WB RB IP LC BEE M
MAAD 4B04 Professional Practice for Material Art & Design (MAAD 3)	CD3/CI3	SB BD WB RB IP LC BEE M

Course instructors were given their choice from a range of nine modules. As a result, different modules were selected as well as a different number of modules in each section of the course. One course instructor in graphic design included a single module; one in material art and design, also a content developer, included all nine.

Course instructors were given the flexibility to choose which modules to integrate and how they would integrate and assess them. In two sections of the course taught by the same instructor, the quizzes counted for 5% of the final grade; in another two sections taught by another instructor, they counted for 15%. In the remaining sections, they were not weighted at all. In addition, one of those remaining sections was delivered as a hybrid course, with two hours per week taught on campus and one hour given to online learning.

Research Methods

The research methodology combined qualitative and quantitative methods to evaluate the experience of both faculty members working as content developers and the instructional support team in the content development process, as well as of both faculty members working as course instructors and students in course delivery. The research was therefore conducted in two stages: content development and course delivery.

In the content development process, qualitative feedback was collected primarily through one-on-one interviews with the project coordinator, which were recorded and later transcribed. A first round of interviews was conducted in July and August of 2013 with each of the content developers (five in total), the faculty coordinator and the educational developer, when the modules were still being developed. Second interviews with the content developers were conducted in February 2014, after the modules were complete. Participants in the content development process were asked what it was like to participate in a collaborative course design process and to develop course modules for use in multiple disciplines, as well as how what they learned might inform their teaching practice. Specific questions focused on the positive and negative aspects of collaborative course design in relation to workload, productivity, quality of output, as well as faculty satisfaction and engagement (see Appendix B for the interview questions).

During course delivery, qualitative feedback was collected from course instructors who incorporated the modules into their courses (five in total) through one-on-one interviews with the project coordinator, which were recorded and transcribed through January and February 2014, while they were still teaching with the modules (see Appendix B for the interview questions). Faculty members were asked about their experiences collaborating across disciplines, any challenges they encountered, their assessment of the quality of the redesigned courses, and any benefits to their teaching.

Both quantitative and qualitative feedback was collected from students in those same courses through the delivery of a student feedback questionnaire in February 2014, while they were still taking the course (Appendix C). The surveys combined Likert-scale questions with qualitative questions requiring narrative feedback. Students were asked to reflect upon their perception of the utility of the newly developed modules and their overall learning gains in these courses. There were seven course sections in total. Student

enrolment ranged from 21 to 34 students per course, for a total enrolment of 165 students in all participating courses. Of these, 137 students completed the survey.

The data collected from students were anonymous and the data from faculty members has since been anonymized. Approval was granted by OCAD University's Research Ethics Board for the use of human subjects in research, and all participants (faculty, staff and students) were required to complete consent forms.

One limitation of the information collected during the course delivery stage is that both faculty and students surveys were completed relatively early in the term, between four and six weeks into the term. This was done in consideration of student and faculty workloads in the second half of the winter term.

Results

The Collaborative Course Design Process

In the interviews conducted with the content developers, faculty coordinator and educational developer while the modules were being developed, feedback about the process was generally positive. Working collaboratively raised challenges but most felt that the process was a learning experience and an opportunity to develop their own teaching practice. There are few opportunities at OCAD U to collaborate or team-teach, so working across disciplines on this project was a "unique opportunity" (CD4, interview 1). As one content developer noted, "We tend not to be collaborative in our course design, even though we ask students to work collaboratively all the time; it's a taste of our own medicine" (CD3, interview 1). Another noted that it was useful to have the perspective of another content developer on their own content because it is often difficult to see where the gaps in your own content are (CD2, interview 1).

Most of the content developers argued that the professional practice courses were particularly suited to the LMS module format since a considerable portion of the curriculum was "fact-based" (CD2, interview 1) and was therefore suited to online content delivery. One in particular noted that mounting content online allowed more time for students to work in studio (CD4, interview 1).

Several of the content developers also noted the utility of breaking down the course content into discrete modules as well as using case studies as a way to make topics, such as money management, for example, practical and context-specific. At the same time, all the content developers recognized the challenge of selecting and narrowing content to fit it into the one-hour module. Two in particular used the word "distill" (CD1, CD3, interview 1) to describe how they felt they were translating their knowledge into the module format. Others noted that the content was occasionally treated superficially as a result. Moreover, since the work was collaborative, some content developers felt that content developed in other modules was uneven and "not robust enough" (CD3, interview 2). One, commenting on a perceived lack of professional quality, noted that "students are so used to really well-developed content, that if it's at all amateurish, they're not going to care" (CD2, interview 1). Moreover, it was argued that the material, delivered in content pages and tested through online quizzes, was not as interactive as it could have been.

One of the unanticipated challenges in the development of this study was that the attitudes towards online learning of those developing the modules were largely predetermined by perceptions related to the institutional impetus to bring learning online and the belief that such development was being done strictly as a cost-saving measure on the part of the university administration. As a result, many of the content developers expressed the need for a more sustained and robust conversation about online learning and institutional priorities. One argued that the experience of working collaboratively on the modules “illuminated the need for a wider discussion about online learning to make it clear that it enhances what teachers and students do in the studio” (CD2, interview 1). Another argued that a clear position statement about online learning at the outset of the project would have been useful (CD1, interview 1).

Several interviewees noted the challenge of organizing a large team to collaborate and meet deadlines, and also to share the workload evenly. Considerable time is needed as well as a comprehensive plan and organizational strategy for workload and time management. The educational developer noted in particular that, while the content developers were all eager to be involved in the course development process, they had difficulty committing to the schedule by meeting set milestones and deadlines, and that there was therefore a need to recognize and accommodate participants’ different workflow processes. A more clearly defined and communicated project plan would have helped the content developers to see each of the steps of the process, helping them to move from mapping the module to creating the content to putting it up on Canvas.

All of the content developers also expressed a desire for more opportunities for discussion and feedback during the process of developing the modules, as well as more meaningful interactions, for example, to supplement and revise each other’s contributions. While the content developers expressed varying degrees of concern about their interactions with one another, they were unanimous in recognizing the value of collaborating with instructional support staff. They reported being previously unaware of the kind of support they could receive and how such collaboration with an educational developer could enrich their own teaching practice, especially by introducing them to new pedagogies.

As a result of the collaborative course development process, the content developers reported that they would be able to make better use of the LMS in more meaningful ways in the future. They have also developed strategies for incorporating active learning techniques into both in-class and online learning; as one noted, the “process taught me how to use activities in teaching so that I was not always relying on lecturing” (CD1).

In summary, faculty members working as content developers recognized the benefit of collaborating with colleagues and the instructional support team in the development of their own pedagogy. Specifically, they developed strategies for organizing and contextualizing course material in the development of learning modules. They also argued in favour of the efficiencies for studio learning afforded by the use of a “flipped classroom” model. At the same time, faculty recognized the limitations of the LMS as a medium for instruction and expressed reservations about hybrid and online learning, reservations inflected by larger institution-level concerns, and they cited the need for clearer policy and guidelines for online course development. Finally, all of the participants involved in the course development process recognized the organizational challenges of working collaboratively on a large-scale project.

Course Delivery

Course instructors who incorporated one or more of the modules into their courses reported some success with the use of the modules and the impact they had on student learning, but several challenges were also raised. Most course instructors noted that some of the modules provided expertise they themselves did not have; in this regard, a module on intellectual property prepared by the external consultant was mentioned several times. They also agreed that moving such content to the LMS modules freed up time in class for other activities.

At the same time, more than one instructor expressed concern about not having control over the quality of the modules, which were felt to be inferior in more than one case. One course instructor (CI3) noted complaints by students of spelling and grammar mistakes and that some students complained that the quizzes were not related to the content of the modules. As a result, that course instructor chose to exclude the quizzes from the final grade. That same instructor was particularly concerned about how student perceptions of the quality of the modules would impact student feedback on courses, which might then be tied to individual performance evaluations. It should be noted that student feedback on courses is not used in faculty advancement or renewal processes at OCAD U, but this was a perceived concern and it might be relevant in other institutional settings.

Also of note is the fact that course instructors were given the flexibility to incorporate only those modules that fit their needs and to determine how and whether they would be weighted in the final grade. For example, one course instructor (CI5) in graphic design (GDES2) who included only one module reported very positively on the experience. In that course, the information in the module was discussed in class and the online quiz was completed during class time (as part of a comprehensive laptop program, all students in the Faculty of Design use and are required to bring laptops to class). This same course instructor also based a further assignment on the structure of the module that was incorporated.

In another course in the material art and design program (MAAD1), the course instructor (CI2) expressed concern that students were not completing the online modules; notably, in this course, which was also the hybrid course, completion of the course modules was not incentivized by inclusion of the module quizzes in the final grade. Another course instructor teaching in industrial design (CI1) reported that it was difficult to know which students were completing the modules. Both these instructors felt that the fact that the modules were delivered using the LMS created more work for them. Moreover, the use of the LMS required a steep learning curve. Both instructors noted that more training in using and teaching with technology would have been helpful. One course instructor argued for the need for a shared philosophy of teaching with technology and more guidance for the integration of the module content into in-class teaching and learning activities.

In summary, course instructors identified the benefit of being able to incorporate material developed by experts outside their field. However, they cited concerns about the uneven quality of the modules and also expressed their desire for more training in the use of Canvas, for example, in being able to track students completing the modules. Feedback from the course instructors also suggests that the modules were most successful as learning activities when they were used strategically, integrated in in-class activities and assignments, and incentivized by being weighted in the final grade.

Feedback from Students

Students in all seven of the professional practice courses with embedded LMS modules completed a questionnaire in February 2014. The questionnaire combined Likert-scale questions about the modules with more general narrative responses about their experience in the course (see Appendix C).

In the quantitative data (see Appendix D), students reported positively on the inclusion of the modules in the courses; overall, 53% agreed or strongly agreed with the statement, “I like that the modules are a new addition to the professional practice course.” The responses were generally more favorable in the two sections of the professional practice course in graphic design, with 76% and 72% agreeing or strongly agreeing. In addition to the fact that both course sections were in graphic design, a potentially significant correlation is that, in these sections, relatively fewer modules were used, only one in both sections. In the other sections in which multiple modules were employed (four or more), the response rates were less favourable, with as low as 26% of students agreeing or strongly agreeing in one course in industrial design, 37% disagreeing or strongly disagreeing, and 38% agreeing or strongly agreeing in one course in material art and design. In these sections, relatively more modules were incorporated. The course instructors of these modules were also content developers whose investment in the process of module development may explain why they chose to include a greater number of modules.

A different pattern was identified when students were asked whether the modules improved their understanding of course content (question 2). In the two graphic design courses, the responses were very favourable. However, they were also relatively favourable in other sections that employed multiple modules, with the exception of one section of industrial design in which only 26% agreed or strongly agreed. Overall, then, while relatively fewer students liked the fact of having the modules incorporated into their courses, relatively more perceived a benefit to their learning experience. The perceived benefit to learning was echoed in the narrative comments, especially when students were asked to identify the strengths of the course (Appendix C, question 5). Several students commented on the utility of the modules. For example, one student in industrial design (INDS2) commented that the “module feature of this course adds a self-paced component to the learning experience, which helps to teach self-evaluation and work-pacing.”

About 43% of all students agreed or strongly agreed with the statement that the modules better prepared them to enter the workplace. The responses were comparatively lower in material art and design (29%, 38% and 39%) compared to industrial design (64%) and the two courses in graphic design. This may indicate a need for more industry specification, since it is possible that content about intellectual property or business ethics, for example, may have appeared less relevant to the craft-focused designers of the material art and design program. It should be noted that the intention at the beginning of the initiative was to keep the modules relatively general and to develop more program-specific content in subsequent years.

The comparative utility of the modules for workplace preparation is borne out to some extent by responses in the narrative questions. More than one graphic design student mentioned the utility of the course itself for “joining agencies” (i.e., larger graphic design companies) and learning about cover letters and interviews for that purpose. In material art and design, by comparison, students noted that they are interested in learning how to market their own creations, how to price them, etc. One student noted that the course “prepares students for the business aspects of being a self-employed artist/designer.”

In one section of the professional practice course in material art and design (MAAD 2), responses to each of the quantitative questions were noticeably more negative than in the others. Student comments about the course in general were very favourable. This would suggest that the modules in particular were not well received in that section of the course, which happened to be the one hybrid section of the course (2 hours in class, 1 hour online). In the narrative comments, some students complained that there was little incentive to complete the modules, that they were being short-changed by not getting three full hours of lecture and that the modules were not well integrated with their workload. Some students in that section of the course also complained that the quality of the modules was poor. This parallels the experience of the course instructor, who also noted that she was challenged by students on the quality of the modules.

The open-ended questions asked students what they perceived the strengths of the course in general to be (question 5). In a handful of comments, the modules were specifically identified. Students who commented on the modules liked the information and the way it was presented; they also appreciated how information was presented through the use of “real-life” case studies. Some students noted the utility of the quizzes to test knowledge and commented that they helped them learn the information.

When asked how the course could be improved (Appendix C, question 6), a handful of students identified the modules as requiring improvement. Some students noted that the modules were not well integrated into the in-class learning. One student suggested that “[m]aybe these modules could have been mentioned more in class — I didn’t know they were there.” The issue of the module quality came up frequently, especially in the hybrid course; particular problems mentioned included broken hyperlinks and spelling errors. Other students noted that the information in the modules was not sophisticated enough and that it was “a little too common sense.” One student also expressed frustration about the workload, noting that they were being asked to do too much online in addition to having regular homework assignments.

In the section of the course for which the module quizzes were only worth 5% of the students’ grade, more than one student noted that there was little incentive to complete the modules and that, as a result, “most people skip through them.” In particular, it was noted that the online quizzes meant to test what students had learned from the module could be completed with the module text opened in another page of the Internet browser, leading to the perception that it was easy to cheat. Students also suggested that their course instructors needed to be better trained in the use of the LMS.

In summary, students generally appreciated the inclusion of the modules, but more importantly, most recognized the added value of the modules to their learning experience, especially in the use of case studies and detailed strategies and examples. The modules also seem to have been better received by students when fewer modules were incorporated and when they were both integrated into in-class learning activities and incentivized. Some students, however, also cited concerns about the quality of the modules as well as the need for more industry-specific information and examples. Particular concern was expressed by some students in the one hybrid course about not getting “value for money” with only two hours of in-class learning.

Discussion

Despite several challenges, the development and implementation of a collaborative course design process at OCAD U revealed benefits that may prove relevant to future collaborative course design initiatives at this and other postsecondary institutions.

By far the most significant achievement of the initiative was the collaboration between faculty members, and between faculty members and instructional support staff. Faculty members working as content developers benefitted from the experience of learning from their colleagues through the process of collaborating in course development; what they learned, however, had less to do with disciplinary content than with strategies and techniques for their own pedagogy. They noted the benefit of collaborating with colleagues in ways similar to how designers work professionally and similar to activities in which they ask their students to engage in studio and group projects.

The content developers were even more enthusiastic about the ways their pedagogy was informed by collaboration with the educational developer. The content developers reported benefitting from strategies they learned from the instructional support team for structuring content for delivery in the LMS. For more than one, developing content for online delivery compelled them to rethink how content was structured in their in-class teaching and how students receive and process information. The use of case studies and short daily quizzes were identified as especially useful strategies. For many of the content developers, this was their first experience in specifically pedagogical professional development, beyond routine professional development activities organized by their own faculties. In all cases, they were surprised by the support they were able to receive for their teaching from the Faculty & Curriculum Development Centre, regardless of the collaborative course design initiative.

The use of the LMS also involved a steep learning curve for some of the content developers but one that ultimately represented a significant benefit to the development of their pedagogy. The content developers benefited from the development of active-learning strategies for online learning, which were seen to transfer back into their in-class teaching practices. Concerns expressed by course instructors about the difficulty of knowing whether or when students were completing the modules suggest the need for better guidance around the process of tracking student use of the LMS.

Discussions about online learning, however, were framed by larger concerns about the institutional move to online learning and what were perceived to be the fiscal concerns and cost-saving measures that motivated this shift. That none of the participants in the study was aware of the OCAD University E-learning Strategy, even while expressing their desire for a more sustained and philosophical approach to online learning, suggests the need for better communication across the university about the benefits of technology-assisted active learning, in addition to more transparency about the efficiencies hybrid and fully online learning can create. Many of the concerns expressed in the interviews could have been forestalled by emphasizing the importance of faculty ownership of the process of course development regardless of the delivery mode and that online learning, while potentially alleviating some of the space and class scheduling issues on campus, does not replace faculty in the delivery of courses.

Other challenges to the course development process largely centered on pragmatic issues of communication, planning and workload. As a result of their experience, the content developers all indicated the need for very robust planning as well as organizational and time-management strategies to facilitate the coordination of a large and very busy group of people in a collaborative process. They also indicated their desire to have more and more meaningful opportunities to communicate with each other through the course development process in order both to give and to receive feedback on the work of others.

This desire for more feedback may have been motivated at least in part by perceptions about the quality of the course content produced by other content developers and what was perceived to be the need for greater quality control. The researchers believe these perceptions may be the necessary result of such collaborations in any context. Moving forward, however, the researchers recommend more involvement by the faculty coordinator and instructional support team to monitor the quality of the collaboratively developed courses. They recommend the development of objective quality measures for the collaborative development of course content (see, for example, Chao, Saj & Tessier, 2006; Chao, Saj & Hamilton, 2010), in addition to discursive mechanisms, such as group meetings of all content developers through the course development process, to evaluate how collaboratively developed course content addresses course learning outcomes and whether such content meets appropriate year-level benchmarks. Collaboratively developed content for online courses might also benefit from copyediting to ensure grammatical and stylistic consistency.

With regard to the implementation of the modules in the professional practice courses, a majority of students across most courses saw the benefit of the modules to their overall learning experience. The feedback from students, however, was not entirely positive, suggesting the need for significant improvement to the integration of collaboratively developed and online course content. Some concerns that were identified through this study include a lack of incentive for students to complete the modules online, perceptions of student cheating among their peers, and concerns about the lack of discipline or industry-specificity in the modules. These are concerns that will be addressed as the professional practice modules are redeveloped for future delivery. In particular, the Faculty of Design intends to expand the courses by developing more program-specific material.

The modules appeared to work well in courses where fewer modules were included. A variety of other factors may have influenced how the modules were received by students, including disciplinary differences (the two most successful courses were in graphic design), individual teaching styles or specific teaching and learning activities. Related research in the flipped classroom, however, suggests that a hybrid in-class and online delivery model works best when learning that primarily involves content knowledge transfer is transitioned to an online learning environment, the content is broken up into short video presentations, and content learning is reinforced through problem-based activities in the classroom. In this study, based on the qualitative feedback from both faculty and students, it would appear that the modules were most successful when they were explicitly referenced or included in in-class learning, and especially when relatively fewer modules were incorporated. Student workload is another consideration, though this was addressed through the course design process.

Recommendations

As a result of the benefits documented in this report, the researchers recommend the use of a cross-disciplinary collaborative course development process where there are suitable contexts for doing so, such as in the teaching of professional practice across design disciplines. The researchers also offer the OCAD U example of hybrid course development, combining online learning modules with in-class learning activities and assessments, as a model for other institutions. Such collaborative course development is an especially effective way to foster collaboration between faculty members and instructional support staff to cultivate reflective pedagogy and create opportunities for dialogue.

Essential to the success of any such initiative are rigorous project planning and communication of expectations for all participants involved, especially with regard to time management and workload.

The researchers recommend the development of clear guidelines for online and hybrid course development. For OCAD U, such guidelines might be included in revisions to or supplementation of the OCAD University E-learning Strategy, including active-learning strategies for the integration of online course content into in-class teaching. The guidelines should be clear about how and to what extent online course content should be incentivized, such as how online quizzes or other measures of online learning are weighted in the final grade.

In the case of collaborative online course development, the guidelines should also include strategies and models of in-class problem-based or case-study learning activities that apply cross-disciplinary course content (for example, the lesson on intellectual property) to discipline or industry-specific examples or situations. The researchers also recommend the development of a more rigorous evaluation process, including the use of quantitative measures and control groups, to study the impact of collaborative course design for hybrid delivery.

For OCAD U, the development of guidelines, teaching and learning strategies, and more rigorous study methods will foster a more reflective and informed pedagogy for cross-disciplinary collaborative hybrid and online learning.

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