

# **Large Online Classes: Successful Design and Delivery Strategies**

## **Research Objective**

The purpose of this experimental, case study based research was to explore how online course redesign might impact instructor and student satisfaction as well as student learning outcomes. This small scale research focused on identifying approaches for a research-based solution that may provide the opportunity to maintain both access to in-demand courses and a fiscal model that includes 40-65 students per course section while ensuring high satisfaction levels with the courses by both students and instructors.

The following research questions were investigated in this project:

1. How do online class size and instructor workload impact online student learning outcomes?
2. How might the design and delivery methodology of large online classes be adjusted to reduce student attrition and failure rates, and reduce instructor and student dissatisfaction?

The research focused on two courses from two different disciplines to increase the likelihood of generalizing findings beyond an individual course or instructor.

The ultimate goal was to identify effective course design and delivery strategies for large online courses that may lead to adopting this approach for other large online classes at the participant institution to potentially maximize student and instructor satisfaction.

The following were identified as success criteria outcomes resulting from course re-design:

1. Decrease in student attrition and failure rates
2. Instructor satisfaction (balancing workload and student-instructor interaction)
3. Student satisfaction (quality of course materials and frequency and quality of feedback provided by instructors)

## **Preliminary Literature Review**

Many works in the literature of online learning state that online course enrolments should be limited to 12-25 students per course (Orellana, 2006; Tomei, 2006; Oestmann & Oestmann, 2004). Many institutions currently exceed those numbers, often by a large margin (Nagel & Kotzé, 2009; Elison-Bowers, Sand, Barlow & Wing, 2011). Student demand for the flexibility of online learning is rapidly rising and, in many online learning programs, institutional administrators are asked to ensure that students who wish to participate in courses have the opportunity to do so (Bates & Sangrà, 2012). In Ontario, the Ministry of Training, Colleges and Universities is putting pressure on universities to

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increase access to higher education through measures such as increasing online options for students.

There are some challenges for institutions in ensuring maximum student access to online programs. Student success and engagement, as well as instructor workload and satisfaction in large online classes, is difficult to achieve (Taft, Perkowski & Martin, 2011). For continuing education institutions to remain competitive in today's higher education market, student success and satisfaction, and the ability to attract expert instructors are top priorities. Online programs must uphold these priorities. Although there are many good sources for general advice on high quality online learning design and delivery, there are very few literature-based recommendations about large online classes.

Our preliminary review of the existing research identified a variety of works exploring beyond the 20-25 students per online course limit and providing recommendations for design and delivery. There is no single, clear "large online class" model arising in the literature. Thus, it may benefit institutional course designers and instructors working in large online courses to explore elements of multiple models, and determine what may work best for their students and within their institution. Results may contribute to the growing body of research in this area.

### **Re-design Strategies Implemented**

Following an analysis of factors impacting instructor level of satisfaction teaching a large size online class, the Digital Education Strategies (DES) team that works on online course developments at The Chang School, conducted a thorough literature review to identify re-design strategies needed to address concerns and challenges of instructors.

The team also examined quantitative and qualitative data on Spring 2013 offerings of the courses in order to establish a baseline description of student and instructor challenges, which could be compared with the results following the implementation of recommended design and delivery strategies. The instructors who would be surveyed for their satisfaction levels were involved throughout the project.

A number of design recommendations were implemented with instructional design support in time for course delivery in Winter 2014.

The research of Brown, Green & Alejandro (2009) on retention of experienced faculty in online distance education programs that emphasizes the need for institutional support in order to retain experienced faculty for online education programs provided a number of strategies for this project. The following strategies based upon Brown, Green & Alejandro (2009) were put in place to support the two courses involved in the research project:

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- **Assistance in course re-design** – an instructional designer was assigned to work with instructors on the re-design of the courses. Naturally, the motivation and openness to the feedback and the instructional design support was critical in the process.
- **Assistance with technical support issues** provided by the Digital Education Strategies team allowed instructors to focus on teaching instead of on solving students' technical issues.
- **Regular communication with DES staff and availability of support** for instructional design and media development (self-assessment tools, etc.)

In addition, the research of Berry (2008) identified four key elements as contributors to student satisfaction and reduction of instructor workload:

- A shift from teacher-focused to learner-focused approach
- Finding ways to build trust and personalize the course
- Establishing clear deadlines
- Designing effective online testing

Based on the recommendations of Berry (2008), the project design team collaborated with the course instructors to put the following strategies into place:

- a) Preparation of course orientation materials such as a welcome message, clarifications about instructor presence and response time, guidelines on “how to approach this course,” and a student participation rubric outlining clear expectations which in turn facilitated student-instructor interaction and freed up time for teaching and providing qualitative and timely feedback.
- b) Dividing the class into small, manageable groups to improve student-student interaction (e.g., assigning weekly group exercises and sharing on class forum in groups of 4-6). The instructors encouraged students to complete all eHomework and other self-assessments and to help each other to find answers, which helped to solidify their learning.
- c) Providing the necessary and timely support to students through general or group discussion forums in order to ensure that students felt supported
- d) Setting up FAQs and Q&A discussion forums. Based on Restine and Peterson's work (2012), discussion forums and group work provide opportunities to reduce instructor workload, while maintaining high levels of interaction even in large size classes.

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### Summary of Research Findings

#### Quantitative

Number of enrolments varied between 33-47 students, following after-start drops. The most positive results for decreased attrition rates and increased passing rates were evidenced in the first offering of the re-designed course:

#### Reduced Attrition Rates

- Course 1 – from 25.6 to 22.1%
- Course 2 – from 26.1 to 25.4%

#### Increased Passing Rates

- Course 1 – from 65.4 to 83.3%
- Course 2 – from 44.1 to 47.3%

There is a fluctuation, however, between the first and third offering of the courses that may be attributed to cohort make-up and other factors that we will continue to examine.

#### Qualitative feedback

Upon implementation of the instructional strategies (identified above) incorporated into the course re-design (which was funded by The Chang School), the feedback from the faculty/instructors yielded very positive results regarding their satisfaction with course progress and reduced workload.

Instructors teaching the two courses involved in the research reported that, following the course re-design, there was more time dedicated to teaching rather than answering general technical questions and troubleshooting. The number of hours dedicated to course teaching varied from 9-12 hours per week (depending on the cohort). This average is within the expected teaching hours for online instructors, as opposed to the 20 hours per week that instructors were spending spent before the course re-design.

This positive feedback by the instructors was reinforced by equally positive feedback from students on a survey designed specifically for this research project. 92% of the respondents “agreed” to the following statements:

- “Online course materials were well organized and overall supported my learning.”
- “I was satisfied with the amount and frequency of instructor feedback I received.”
- “Instructor feedback was helpful and supported my learning.”
- “The online course homework helped my learning.”

Some of the comments touched specifically on the new design and delivery strategies implemented in those courses:

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*“I believe the Q&A is a vital part to understanding some materials which were difficult to comprehend (e.g. the start of Probability).”*

*“Overall the group discussion would have been more helpful to me, if only it was more active, but that was due to the actual students not participating, and it is the students’ fault for not wanting to perform to expectations in the course. Overall great learning experience, hopefully I will be able to take any future equivalent courses with the same professor. Thank you.”*

## **Significance of the Project to Other University Continuing Education Units**

Online learning programs seem to be a reality for many continuing education institutions in Canada. University Continuing Education (UCE) divisions may be experiencing challenges with how to design and deliver large online classes effectively. In addition, UCE divisions may be providing advice and support to their University undergraduate and graduate programs about online learning and large online classes, in particular that might benefit from these research findings.

Although the sample size for this research project is probably too small to generalize the findings, there is merit in sharing the results and discussing how course re-design can impact student and instructor satisfaction in large online classes.

## **Dissemination Strategies**

Research findings were presented at the CAUCE Conference in May 2015. This report will hopefully provide some guidance to administrators and instructors of large size online classes.

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### Appendix

#### *Student Satisfaction Survey Questionnaire*

We are making continuous efforts to improve the learning experience of our students. In the following brief, anonymous survey, please describe your satisfaction with your online learning experience in this course. Your feedback will help the instructor make improvements for the course.

1. The online course materials were well organized and overall supported my learning.
  - a. Strongly agree
  - b. Agree
  - c. Neutral (neither agree, nor disagree)
  - d. Disagree
  - e. Strongly disagree

Comments:

2. I was satisfied with the amount and frequency of instructor feedback I received.
  - a. Strongly agree
  - b. Agree
  - c. Neutral (neither agree, nor disagree)
  - d. Disagree
  - e. Strongly disagree

Comments:

3. The instructor's feedback was helpful and supported my learning.
  - a. Strongly agree
  - b. Agree
  - c. Neutral (neither agree, nor disagree)
  - d. Disagree
  - e. Strongly disagree

Comments:

4. The online course homework helped my learning.
  - a. Strongly agree
  - b. Agree
  - c. Neutral (neither agree, nor disagree)
  - d. Disagree
  - e. Strongly disagree

Comments:

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5. Interactions with other students in the discussion forums and/or Q&A forum were helpful for my learning.
  - a. Strongly agree
  - b. Agree
  - c. Neutral (neither agree, nor disagree)
  - d. Disagree
  - e. Strongly disagree

Comments:

6. Overall, I was satisfied with my online learning experience.
  - a. Strongly agree
  - b. Agree
  - c. Neutral (neither agree, nor disagree)
  - d. Disagree
  - e. Strongly disagree

Comments:

7. Please describe anything you would like your instructor to know about your learning experience in this course and any ways you believe we could improve your satisfaction level with the online learning experience.

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