A Study of Students' Perceptions About Online Versus Traditional Teaching

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This is a multi-semester and multi-course study that presents students perceptions about the online and traditional components of nine Decision Science courses offered in a hybrid and online fashion in an AACSB mid-western Jesuit Business School. The goal of our study is to enhance our own understanding about online teaching and improving our techniques. We also believe that the findings can contribute toward much needed ongoing research in the field of online and hybrid higher education.

Keywords: online, hybrid, business, education, teaching, learning

INTRODUCTION

With the growing demand for education from non-traditional students, many universities are turning to hybrid and online courses. As more and more top universities continue to embrace online education, such a delivery mechanism is gaining credibility and popularity while reducing cost and increasing accessibility and flexibility. Hybrid courses are blended courses which are offered partly in class and partially online using course delivery platforms such as Blackboard. Hybrid or blended courses have received increasing attention among education scholars in recent times. The consensus definition of hybrid classes integrates online learning with traditional face-to-face class activities in a valuable pedagogical manner where 20 – 79% of course content may be delivered online (Garrison and Kanuka, 2004; Allen et al., 2007). The online and hybrid models can increase education access, which can otherwise be bound by time and geographical constraints. Online classes are also appealing to students who want to do things independently in their own time and pace (Lorenzetti, 2005). However, online classes' flexibility may take away face-to-face disciplined interaction that some students require to do well. Hybrid courses may be able to provide the best of both worlds. That is the fundamental reason to conduct more studies comparing learning outcomes from online and traditional classes and report such results and lessons learned. Such research work may help other instructors across disciplines that are looking for more knowledge to succeed in their online teaching endeavors, which is growing more and more in the current times, particularly for higher education in Business.

The majority of studies comparing student performance in online versus traditional classes show no significant difference (Russell, 1999; Fredda, 2000; Dutton et al., 2001; Lorenzetti, 2005), which is also a motivation for higher education institutions to promote more and more online classes. Larson and Sung (2009) suggested that there are no differences in learning perceptions between online and face-to-face delivery models and hybrid courses do well when it comes to learning effectiveness and student and faculty satisfaction. Most research on online education suggests that online education is as effective and, in some cases, more effective than traditional classroom education. Comparing student perceptions about their learning in face-to-face and online classes is needed to determine whether and how students can develop and grow as Business professionals with the desirable skills and abilities to help them thrive in the real work environment. This study compares the student perception about online and traditional learning, specifically for hybrid courses. In the future, we want to compare student perceptions of fully online, traditional, and hybrid classes to help us figure out the best online teaching strategies. We believe that hybrid classes have the potential to bring the best of both worlds and may very well be the future of higher education in Business.

RELEVANT STUDIES

Many universities have started offering online, web-based courses to provide cutting-edge education to meet students' needs with time and place constraints (Burritt, 1997; Carr, 2000; Matthews, 2000). Online courses are gaining popularity in business schools as a course delivery method due to changing student market and demands (Arbaugh, 2000; Gagne and Shepherd, 2001).

Introducing online course elements has been positively associated with course outcomes in numerous studies (Balotsky and Christensen, 2004; Webb et al., 2005; Hwang and Arbaugh, 2009). Other benefits of having an online component in management education include increased confidence in working in virtual project teams (Dineen, 2005), increased control of the educational experience for students (Klein et al., 2006), and enhanced dialog and interaction skill development (Eveleth and Baker-Eveleth, 2003).

Farmakis and Kaubach (2013) found that well-structured online courses could lead to equivalent quality as traditional courses. Similarly, Pai (2013) and Neuhauser (2010) found no significant differences in learning outcomes between traditional and online learning, even when considering gender and learning styles.

McCarty, Bennett, and Carter (2013) reported that student performance in online introductory microeconomics courses was slightly higher than the face-to-face courses' performance.

On the other hand, some studies paint a somewhat negative picture for online courses. For example, Kartha (2006) reported that students enrolled in an undergraduate business statistics course were significantly less satisfied than those enrolled in the traditional course. Cao (2011) also found that MBA students were less satisfied with online classes than face-to-face classes.

These somewhat conflicting findings from related studies suggest the need for more empirical research in this area, filling the gap and improving our knowledge about the best practices that can enhance learning outcomes and satisfaction. Our study is thus an attempt to fill this gap.

RESEARCH QUESTION

Despite extensive research comparing student perceptions and learning outcomes from online and traditional education, there is a continued need for more research in the discipline context. With growing interest and demand in online education, we are interested in finding out whether online teaching's perceived value and effectiveness are equivalent to traditional teaching. We are investigating this specifically for Decision Science courses but believe that the findings could apply to Business education and higher education. The primary purpose of our study is to describe students' perspectives in hybrid Decision Science courses.

Our research question is thus:

Is the perceived value and effectiveness of online teaching equivalent to that of traditional face-to-face teaching?

RESEARCH METHODOLOGY

This research study's data collection was over seven years between 2011 and 2018 through a survey of college students enrolled in nine hybrid Decision Science courses. Three Decision Science faculty members taught these nine different courses. Four out of the nine courses were senior-level undergraduate courses, while the remaining five courses were graduate courses. The faculty members taught all these courses previously in a traditional manner in a classroom setting. The faculty members modified these courses to be taught and delivered in a hybrid fashion. One third to two-thirds of the classes occurred online with the remaining courses conducted face-to-face. The nine Decision Science courses from which we collected our data are as follows:

1. BUS 3150 Quantitative Methods for Decision-Making
2. BUS 3160 Control of Operations Management and Quality
3. BUS 3170 Management of Information Systems
4. BUS 4940 International Studies in Business
5. MBA 5190 Foundation of Production and Operations Management
6. MBA 5200 Decision Analysis
7. MBA 5260 Information Systems and Technology
8. MBA 5305 Global Sustainable Development
9. MBA 5940 International Studies in Business

All the students participated in the survey, which was a required assignment for each of these classes. The survey questionnaire included questions that reputable universities use to collect data related to online teaching. There was a total of 24 questions in the survey. Out of the 24 items, 19 included a 4 point Likert scale ranging from strongly disagree to strongly agree. Five questions were open-ended that helped us collect suggestions and comments from the students, improving the courses. The 19 items included questions from three categories – student, course readings and feedback, and course design and delivery. All the course materials for the online portions of the hybrid classes were provided to the students using the Blackboard course management platform. The course material posted in the Blackboard course site included: lesson content, assignment, quizzes, and discussion boards. The students reflected on their practices in the online and the face-to-face classes through their survey responses. The students' responses are analyzed and presented in the next section.

RESULTS

The students' perceptions in the courses are somewhat varied with the delivery format, which might be of interest to educators and administrators as they attempt to tackle the challenges of increasing demand for flexible online courses.

The student-related aspects for the online and the face-to-face classes are equivalent to the average for the face-to-face courses being 0.968, whereas the online classes average being 0.968. As we can see from table 1, within the student category, the students claimed that the amount of time/effort that they put for the online classes is higher than the face-to-face classes (0.941 vs. 0.936). Students also claimed that the lectures, activities, and assignments reflected course objectives slightly better for online courses (0.990 vs. 0.985). The students rated face-to-face classes more challenging intellectually (0.966 vs. 0.956). The perceived understanding of concepts and principles in face-to-face courses were higher than the online courses (0.966 vs. 0.956). Students' confidence levels in applying the course principles in new situations were equivalent for online and face-to-face courses (0.966 vs. 0.966). The technology used helped students learn in online classes more than face-to-face classes (0.980 vs. 0.956). Students' comfort level with their learning was slightly higher for face-to-face courses (0.990 vs. 0.980). Students were equally likely to recommend online courses and face-to-face courses (0.975 vs. 0.975).

Overall based on these results from student-specific questions related to the courses, it seems like the online and face-to-face classes are close to being equivalent to some differences within the underlying measures. It is very encouraging to see that students' perceptions about three out of eight student-related measures are better for online classes. Two out of the eight measures are equivalent to online and face-to-face courses. Thus, five out of eight student-related measures are better or equal for online classes, and three out of the eight measures are better for face-to-face courses. Instructors should look at these specific measures and think about innovative ways to bring these face-to-face class-related aspects into the online courses. Students perceived the face-to-face classes more intellectually challenging, and they felt a better understanding of the concepts from face-to-face classes. Students were also more comfortable with their learning in face-to-face classes. This finding suggests that the instructor interaction and engagement and peer engagement in face-to-face courses positively influence how students feel about their learning. Thus, instructors should find ways to bring that level of interaction in their online classes using technology. We believe that the level of engagement in face-to-face classes needs incorporation into online courses through good discussion boards and providing real-time interaction between instructors and students using virtual classroom-related features. We also believe that delivering constant and timely feedback and comments to students can also help.

This finding is encouraging and provides some essential insights into how students compare the two delivery mechanisms and how educators can improve their online classes by taking these student perceptions into account.

TABLE 1
STUDENT PERCEPTIONS

Category	Criteria	On-Ground	On-Line
Student	The amount of time/effort I put into this course was as expected (hours per week)	0.936	0.941
	Course lectures, activities, and assignments reflected course objectives	0.985	0.990
	The course was intellectually challenging	0.966	0.956
	I gained good understanding of concepts and principles	0.966	0.956
	I feel confident I can apply the principles in new situations	0.966	0.966
	Technology used was helpful for learning	0.956	0.980
	I was comfortable with my learning	0.990	0.980
	I will recommend this course to others	0.975	0.975

The course readings and feedback aspects of the online classes were slightly better than those of the face-to-face classes, with the average for the online courses being 0.965 and the average for face-to-face courses being 0.962. As we can see from table 2, within this category, the students claimed that assignments were returned faster for online classes than face-to-face courses (0.966 vs. 0.941). Students felt that the topics were explained, presented, and demonstrated better in online classes than face-to-face classes (0.966 vs. 0.956). They felt more stimulated to think critically about the subject matter in face-to-face classes than online courses (0.980 vs. 0.966). According to the students, the variety of teaching methods used in face-to-face classes were identical to those used for online courses (0.926 vs. 0.926). The students also claimed that the course materials were presented slightly more precisely and logically in face-to-face classes than online classes (0.985 vs. 0.980). Finally, the students felt that the tone of announcements in the online courses was slightly more welcoming than the face-to-face courses (0.985 vs. 0.980).

These findings suggest that overall course readings and feedback aspects for online classes were slightly better than face-to-face courses. Some specifics are more valued in one delivery versus the other, showing that each delivery mechanisms have specific strengths and weaknesses. Having prior knowledge of these differences can help educators mitigate the shortcomings inherent in a delivery mechanism. It is indeed

encouraging to find that student perceptions regarding three out of the six-course reading and feedback related measures for online classes are better than the face-to-face classes. One out of the six measures is equivalent to online and face-to-face classes. And two out of six measures are better for face-to-face classes. Instructors should specifically look at these face-to-face class-specific strengths and consider ways to bring those into their online courses. Specifically, students felt more stimulated to think critically about the subject matter in face-to-face classes. They also felt that course materials were presented more clearly and logically in face-to-face classes. This result suggests that instructors should think creatively about creating assignments specifically for online courses to stimulate students to think critically. More assignments designed to help students think outside the box can help bring this face-to-face class strength into online classes. Also, we must acknowledge that instructors are qualified and brilliant in their subject matter, and thus they must provide their expertise in non-traditional ways for online classes.

Furthermore, instructors could also think about providing short videos explaining the subject matter's key concepts to help students. Short recordings made by the instructors can help students feel their instructor's presence in their learning, which can boost critical thinking. Additionally, instructors must be very organized when it comes to online classes. They need to provide very clear and concise instructions regarding all aspects of the online courses. Students should not wonder about the necessary information related to the online course, leading to frustration. Overall, the findings are very encouraging. However, there is room for development to bring some strength of face-to-face classes into the online courses.

TABLE 2
COURSE READINGS AND FEEDBACK

Category	Criteria	On-Ground	On-Line
Course Readings and Feedback	Returned assignments within a reasonable time	0.941	0.966
	Explained and presented/demonstrated topics clearly	0.956	0.966
	Stimulated me to think critically about subject matter	0.980	0.966
	Used a variety of teaching methods which helped my learning	0.926	0.926
	The course materials were presented in a clear and logical manner	0.985	0.980
	Overall tone of the announcements was welcoming and friendly	0.980	0.985

The course design and delivery aspects were more favorable for online classes than the face-to-face classes (0.985 vs. 0.968). As shown in table 3, the students approved the face-to-face classes' organization slightly better than online courses (0.975 vs. 0.971). The students claimed that the face-to-face courses' delivery was more in line with their expectations than online classes (0.966 vs. 0.956). The students felt that the face-to-face classes' overall quality met their expectations better than the online courses (0.985 vs. 0.971). The course activities met student expectations more for online courses than face-to-face classes (1.000 vs. 0.951). Finally, the students claimed that the course activities scheduling was more convenient to the university schedule for online classes than the face-to-face classes (0.971 vs. 0.961). These findings provide rich insights into student perceptions and are valuable to educators to offer better courses that offer better satisfaction and learning.

Specifically, we observed that overall student perception regarding course design and delivery is better for online classes than face-to-face classes. Student perceptions were more favorable for online classes regarding two out of the five-course design and delivery related measures. And three out of the five measures were better for face-to-face classes. We observed that students felt significantly better regarding the course activities and course activities scheduling for online courses than face-to-face courses. This result is clearly due to the flexibility provided by online classes, which allows students to proceed at their own pace and time. This benefit is particularly useful for working students who balance between school and work. However, our findings also suggested that instructors need to continue to improve the course

organization, delivery, and overall quality of online courses taking student feedback into account. We believe that instructors should attend online teaching-related workshops to learn innovative ideas that they can use in their online classes.

Additionally, there should be technology and design-related in-house support for the instructors to design better online courses. Continuous improvement of courses is more important for online courses, considering the area is still evolving, and instructors are always adapting. More training and support for instructors can provide a better learning experience and outcome for students.

TABLE 3
COURSE DESIGN AND DELIVERY

Category	Criteria	On-Ground	On-Line
Course Design and Delivery	The organization of the course met my expectation (if you evaluate this as a C or D, please tell us what to do to improve)	0.975	0.971
	The delivery of the course was as I expected (if you evaluate this as a C or D, please tell us what to do to improve)	0.966	0.956
	The overall quality of this course met my expectation (if you evaluate this as a C or D, please tell us what to do to improve)	0.985	0.971
	My expectation of the course activities was met best in (if you evaluate this as a C or D, please tell us what to do to improve)	0.951	0.1000
	Course activities scheduling was more convenient to my university schedule with (if you evaluate this as a C or D, please tell us what to do to improve)	0.961	0.971

CONCLUSIONS AND FUTURE RESEARCH

Student performance is the most critical measure of the success of an online course. However, student perception and satisfaction are equally important for better design of online classes and programs, leading to such courses and programs' continued success. This study accomplished this by gauging students' perceptions and feelings about the online and face-to-face components of nine hybrid courses.

Overall, it was very encouraging to find that students' perceptions about online classes were better for two out of the three categories and equivalent for one out of the three categories of student perception measures. Student perceptions about course readings and feedback and course design and delivery were better for online classes. Student perception regarding student-related aspects was equivalent to online and face-to-face courses.

Despite the overall positive finding, we noticed a few differences in how students felt about some of the underlying measures. For example, students suggested that they gained a better understanding of concepts and principles and felt more confident in applying the principles in new situations in a face-to-face class than online classes. They also felt more comfortable with their learning in face-to-face classes. This result suggests that the instructor and peers' engagement in class is a valuable aspect of face-to-face classes that somewhat get lost in an online class. However, instructors can use discussion boards and more real-time collaboration with the students to create this aspect in an online course. The notion is that the students should not feel lost and alone in cyberspace. Students felt that they put more effort and time into the online classes, and course-related activities better-reflected course objectives. This result suggests that online classes get more work and thus learning out of the students when designed and delivered optimally and therefore has considerable potential. Finally, the students' felt that the technology used was more helpful in their learning in online classes. This outcome is an essential contribution to online courses because students can be better prepared to utilize technology in the real world due to their online class experiences.

Students' perceptions of course readings and online classes' feedback were slightly better than face-to-face courses. However, there were some differences in underlying measures. For example, students felt that assignments were returned faster in an online class. Also, faculty members demonstrated topics more clearly in online courses. This result is a very positive finding showing the strength of a structured online class. Online classes are potentially more organized than face-to-face classes. However, students also claimed that face-to-face classes were more stimulating, highlighting the importance of student engagement with faculty and peers in enhancing their learning satisfaction. Students also felt that course materials were presented more clearly in face-to-face classes, suggesting that online classes need an organization to not feel lost. Students also felt a more positive tone into announcements in online classes. The reason could be that instructors put more time and thought into making these announcements, which give more positive feelings than when they announce in class.

Students' perceptions of course design and delivery were more favorable for online classes. The course delivery met students' expectations better in face-to-face courses. This outcome may be because students have more experience with face-to-face courses, and there is little or no uncertainty regarding their expectations regarding the course. This outcome again shows that online courses must be more organized, and instructors must make sure that there is no confusion in course requirements. The students felt that the course's overall quality met their expectations better for face-to-face classes. This result suggests that the quality of online courses must be improved. This outcome shows a need; however, we believe that this will change as instructors gain experience in teaching online classes, and students gain exposure to learning from online classes. The students' felt that the course activities met their expectations in online classes better. These findings are encouraging; however, online course design and delivery are still not matured and need more work from educators. Finally, students' perceptions regarding scheduling course-related online classes are better than face-to-face classes. This outcome is where instructors and administrators must tap the real strength of online class lies. With students' changing demographics, it is even more critical to provide them with much-needed flexibility without compromising learning quality and satisfaction.

Online teaching and learning respond to the changing needs and abilities of students. Online classes have the potential to enhance the student-centered learning experience and can better respond to individual students. Such courses open up new opportunities by saving costs for both the universities and students. They expand market reach globally as well as locally and enhance competitiveness. Based on preliminary data analysis, the results of this study suggest that online classes have massive potential in Business education, particularly in Decision Sciences. However, it is essential to understand the challenges in online courses to mitigate them. It is also necessary to bring the best experiences of a face-to-face class in an online class through better technology use. In this endeavor, technical support and online education-related workshops, and other educators' resources will be two crucial factors.

In future studies, we plan to expand this research using more advanced statistical analysis on the student perception data. We also want to study if there is any difference in student perceptions based on age and gender. Finally, we want to evaluate student learning outcomes and compare the two delivery mechanisms. Additionally, we want to compare students' perception data from two different periods and see whether students' perceptions improve over time as instructors get more seasoned and experienced in online teaching and students are more prepared to take online classes. We also want to compare 100% online courses with hybrid or face-to-face classes.

As with most studies, there are limitations to our research as well. First, we compared online and face-to-face components of hybrid courses and did not compare fully online classes with face-to-face courses. Second, we combined data from graduate and undergraduate courses, which may mask the differences inherent in graduate versus undergraduate students. Third, we did not consider the students' actual performance in this study, albeit we propose to do that for future research. Fourth, a limited number of variables in this study precluded studying the impact of other potential factors such as different pedagogical methods used by different instructors, student participation, and other student and professor-related outcomes.

This study's unique contribution is an enhanced understanding of perceptions regarding general student aspects regarding the course, course readings and feedback, and course design and delivery. We have taken

a holistic approach to student perceptions about the courses' online and face-to-face components. Such a complex undertaking has allowed us to develop critical insights that can improve our understanding of online courses and help develop innovative strategies to enhance online teaching, thus resulting in enhanced student learning. The key findings can help us to design better courses to improve the learning experience for our students. Since we collected data from multiple classes taught by three different faculty members, our findings can be considered much more robust than results from studies involving data from one or two semesters, usually from courses taught by a single instructor.

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