Student Preferences for “Live”, Recorded, and Text-Based Lectures in a Stress Management Course

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Abstract

The purpose of this study was to compare student preferences for “live,” recorded, and text-based lectures in hybrid and fully asynchronous classes for a stress management course. Students enrolled in hybrid sections (n=94) received lectures via face-to-face interaction with the instructor, audio/visual recordings, and text-based recordings. Students in the fully online sections (n=339) received lectures via audio/visual recordings and text-based recordings. The same instructor taught all sections. Students were asked to rate lecture quality for all formats in which they received them, and were asked which lecture format they liked best. Results revealed that significant differences were found among both students’ perception and preference for lecture format. Online students rated the quality of the audio/visual recorded lectures the best and they preferred the audio/visual recorded lectures more so than the text-based lectures. Hybrid students rated the quality of the classroom lectures the best but preferred the audio/visual recorded lectures.

Key Words: Traditional instruction, face-to-face, recordings, online learning, lecture format

INTRODUCTION

Learning outcomes and student satisfaction have been shown to be comparable or even superior to face-to-face classes in a variety of courses such as medical terminology (Somenarain, Akkaraju & Gharbaran, 2010), instructional design (Johnson, Aragon, Shaik, and Palma-Rivas, 2000), Spanish (Salcedo, 2010), behavior management (Caywood, 2003), Organization Behavior, Personal Finance, Managerial Accounting, and Sociological Foundations of Education, and Environmental Studies (Schuman & Sims,1999). Research suggests that well-designed online health and wellness courses may be effective as well (Lim, Kim, Chen, & Ryder, 2008). Regardless of discipline, a significant component of a well-designed online course may be the format in which the information is disseminated. An increasing number of institutions of higher education are supporting student learning by providing online recordings of lectures (Leoni and Lichti 2009). However, additional research is needed in order to document the effectiveness of this method for disseminating information. The purpose of this study was to examine student preferences for in-class or "live" lectures, audio/visual recordings of lectures, and text-based lectures in hybrid and online sections of a stress management course.

REVIEW OF LITERATURE

Audio feedback may be comparable to audio lectures in that both involve disseminating information and both are essential to the learning process. Rockinson-Szapkiw (2012) examined how audio and text feedback contributed to

125 online doctoral students' sense of community and learning compared to written feedback. Results indicate that doctoral students who received audio and text feedback had better perceptions of their instructor. Furthermore, they had better cognitive development and learning outcomes than those who received written feedback. The conclusion of this study is that audio and text feedback is superior to written feedback. The question remains, however, as to whether audio feedback is superior to text feedback, and whether results would be similar with audio-based and text-based *lectures* as opposed to *feedback*.

In addition to reviewing comparisons between audio and text-based feedback, it's helpful to examine research pertaining to inclusion of text within audio/visual lectures. Debuse, Hede, and Lawley (2009) investigated the application of voice recognition technology to online lectures focusing on the efficacy of the text component of multimedia presentations. Specifically, participants were provided online access to multimedia instructional presentations comprised of an image of the lecturer, accompanying computer slides, and simultaneous scrolling text of the words spoken during the lecture. Participants' knowledge was measured before and after the lecture presentations. Results indicate that there were no significant differences in learning efficacy with and without on-screen text. The researchers conclude that resources are better spent providing a combination of audio and slides rather than text and slides. A significant difference, however, between this study and the current study is students were exposed to both audio and text within the same lecture. In other words, students were not required to rely solely on reading the scrolling text in order to receive the information. Thus, the question remains as

to whether students prefer being able to *read* the information or *hear* the information, and not both simultaneously.

The use of online lecture recordings as a supplement to face-to-face lectures has become increasingly popular at many universities. Birch and Hancock (2012) combined survey data with student record data for students in a Microeconomics Principles class to examine the relative effects of lecture attendance and online lecture recordings. Their main finding is that students who used the online lectures as a substitute for attending lectures are ultimately at a severe disadvantage in terms of final grades. Moreover, students attending few face-to-face lectures do not view more online lectures. Conversely, students who attend the majority of lectures in person appear to benefit from the lecture recordings. The authors conclude that the results provide empirical evidence that lecture recordings are a valuable *supplement* when used as a complementary tool. However, when used as a substitute for attending in-class lectures, lecture recordings provided no additional benefit. Because the primary purpose of the recordings was to supplement the face-to-face lectures, the question remains as to the benefit of using lecture recordings *in lieu of* classroom lectures in fully asynchronous classes.

Similar to Birch and Hancock (2012), Drouin (2014) examined the effects of offering supplemental video lecture recordings to students in a face-to-face introductory psychology course. One section had recordings of the face-to-face lectures available and one section did not. The researcher examined whether the availability of the recorded in-class lectures affected academic performance and whether attendance mediated this relationship. Although students had favorable

views of the lecture capture technology and thought it should be available campus wide, few students actually viewed the recordings. Those who did view the recordings used them mainly as a substitute rather than a supplement to face-to-face lectures. The class with the availability of lecture recordings had significantly lower attendance rates and final grades. Further analyses revealed that lecture recording availability appeared to increase nonparticipation in exams, class activities, and assignments in a select group of students. When these non-participators were excluded from analyses, significant differences between class sections disappeared. Thus, the audio/visual recordings do not appear to be beneficial in this particular study. However, the recordings were of in-class lectures or lectures that students had already received or could have received in a classroom. The current study aims to assess student preference for one of three types of lecture formats: audio/visual recordings, text-based recordings, and classroom lectures.

In contrast to the findings of Debuse, Hede, and Lawley (2009), other research suggests that students may prefer text-based information, depending on the type of information. Grabe (2008) investigated student use of lecture resources that offer a representation of the lectures presented (i.e. lecture outline, lecture summary, audio recording) and the relationship of the use of such resources to examination performance and attendance. Results indicate that students made very little use of the audio recordings. The researchers suggest audio recordings may be regarded by students as less efficient and less useful than text-based lecture summaries. The use of online lecture resources, lecture attendance, and examination performance

were positively related. For one of three examinations, there was a significant negative interaction of note use and attendance in predicting examination performance. Thus, students may be able to successfully compensate by viewing online lecture resources when unable to attend class. Because students in this study were not asked to explain their use of these resources, the author admits that his findings are regarded as speculative. Given the interests of many practitioners in providing students with lecture resources, the descriptive data and the relationships observed in this study encourage additional investigation, specifically comparing learning outcomes and/or student preferences with audio/visual recordings of lectures with text-based recordings of lectures.

Similar to student satisfaction, perceptions are important to consider when determining optimal methods of disseminating information. Maynor (2013) describes perceptions of students and faculty members regarding the impact of lecture recordings in a doctor of pharmacy (PharmD) curriculum. Second- and third-year pharmacy students and faculty members completed an anonymous survey of their perceptions of lecture recordings with two classroom lecture capture software programs: Camtasia Studio and Wimba Classroom. Results revealed that most students (82%) responded that Camtasia was very helpful and almost half (49%) responded that Wimba Classroom was helpful (p,0.001). Regardless of the type of software program used, the researchers conclude that pharmacy students consider lecture recordings to be beneficial. However, as with other studies cited, this study used recordings primarily as a review of in-class lectures. The question remains as to student perceptions of audio/visual lectures and text-based lectures in comparison

to face-to-face lectures.

The application of podcasting, which basically involves audio recordings for educational purposes, is growing fast in universities. Van Zanten, Somogyi and Curro (2012) explored how students interact with different types of podcasts. The researchers compared download and course evaluation data of a series of short-summary podcasts with full-lecture podcasts produced for the same university course. Results indicate that students value full-lecture podcasts as highly as the short-summary podcasts, despite the fact that full-lecture podcasts are downloaded to a markedly lesser degree. The authors conclude that both full-lecture and short-summary podcasts serve as useful tools for student learning in university contexts. Again, the question remains as to students' preferences for full-lecture audio/visual recordings versus text-based recordings in comparison to face-to-face lectures.

Skylar (2009) investigated whether asynchronous and synchronous online instruction resulted in differences in student performance, student satisfaction, or student perception of their technology skills. Students received instruction via asynchronous text-based lectures or synchronous web conferencing lectures. Results suggest that both types of lectures were effective in delivering online instruction. However, the majority of students indicated that they would rather take an online course that uses synchronous web conferencing lectures than an online course that uses asynchronous text-based lectures. Results of this study point to the question of whether students prefer audio/visual recordings of lectures in comparison to text-based lectures in a fully asynchronous course.

Research Question

This study was guided by the following research questions:

1. For hybrid students, is there a significant difference in ratings of the overall quality of classroom lectures, audio/visual lectures, and text-based-lectures?
2. For online students, is there a significant difference in ratings of the overall quality of audio/visual lectures and text-based-lectures?
3. For both online and hybrid students, is there a significant difference in lecture format that students liked best?

METHODS

Course Description

This study compared outcome data obtained from students enrolled in one of two sections of an undergraduate, upper division stress management course taught at a large, public west coast university. The course satisfies a general education requirement and therefore consisted of students from all majors across campus. One section was a blended or hybrid format in which students were required to come to class every other week and listen to a “live” lecture and listen to audio/visual and text-based recordings of lectures on the alternate week. The other section was fully online in which students were required to watch the audio/visual recordings of lectures and text-based lectures. Both sections were taught by the same instructor, consisted of the same assignment and exams, and were taught over a 10-week period on a quarter system.

Sample

A total of 433 undergraduate students participated in this study: 94 enrolled in the hybrid sections and 339 enrolled in the online sections.

Lectures

On a bi-weekly basis, the hybrid students (1) received in-class lectures, which were comprised of a combination of traditional lecture, including the use of Power Point slides, and small and large group discussion; (2) listened to audio/visual recordings of lectures that included Power Point slides with an audio component of the instructor speaking (no visual of the instructor); (3) read text-based lectures that also included Power Point slides, but with additional text compared to the audio/visual recordings, and with no audio component. On a weekly basis, the online students listened to the same audio/visual recordings of lectures and read the same text-based lectures as the hybrid students. Additionally, they listened to audio/visual recordings of the same material that were presented in the classroom sessions for the hybrid students. These recordings consisted of the same topics and Power Points slides that were used in class.

Data Collection and Analysis

The data analysis included descriptive statistics and Mantel-Haensel chi-squared test to determine differences in student preferences between the lecture formats. Chi-squared test was used since the Likert scale produced ordinal, rather than numeric data. Approval was obtained from the campus IRB committee prior to the beginning of the quarter. Students were informed that their responses were anonymous and participation in the study was voluntary. At the end of the quarter, students were asked to complete a brief survey indicating their preferences for the format in which the lectures were delivered. The survey tool in Blackboard was used to collect their responses. Students enrolled in the hybrid sections received the lectures via all three

formats: face-to-face, audio/visual recordings, and text recordings. A five-point Likert scale was used to assess the following questions:

1. How would you rate the quality of the CLASSROOM lectures? Very good, somewhat good, neither good nor bad, somewhat poor, very poor
2. How would you rate the quality of the ONLINE lectures, where you heard the instructor's voice and saw Power Point slides? Very good, somewhat good, neither good nor bad, somewhat poor, very poor
3. How would you rate the quality of the SUPPLEMENTAL lectures, where you did NOT hear the instructor's voice and were required to read the text on the Power Point slides? Very Good, Somewhat good, neither good nor bad, somewhat poor, very poor
4. Which type of lecture did you like the BEST? Classroom, Online with audio, online without audio (supplemental lectures)

Students enrolled in the online sections were asked the same questions with the exception of #1: How would you rate the quality of the classroom lectures? Because online students did not meet for classroom lectures, this question was omitted. The Wilcoxon signed rank-sum test was used to make comparisons.

RESULTS

Research question 1 ascertained differences among hybrid students' ratings pertaining to the overall quality of classroom lectures, audio/visual recorded lectures, and text-based lectures. In order to examine question 1, a Mantel-Haensel chi-squared

test was used. Results indicate that there were significant differences in ratings (refer to Table 1). Thus, the findings suggest support for research question 1, significant differences exist in hybrid students' ratings of the quality of classroom, audio/visual recorded lectures, and text-based lectures. Specifically, hybrid students rated classroom lectures the highest of the three formats ($\chi^2(1) = 15.48$, $p<.0001$), and they rated audio/visual recorded lectures over text-based lectures ($\chi^2(1) = 19.6099$, $p<.0001$).

Research question 2 determined differences among online students' ratings relating to the overall quality of audio/visual recorded lectures and text-based lectures. In order to test question 2, a Mantel-Haensel chi-squared test was employed. Results indicate that there were significant differences in ratings (refer to Table 2). Thus, the findings suggest support for research question 2, significant differences exist in online students' ratings of the quality of audio/visual recorded lectures and text-based lectures. Specifically, online students rated audio/visual recorded lectures higher than text-based lectures ($\chi^2(1)=32.47$, $p <.0001$).

Research question 3 examined differences among online and hybrid students' preferences for lecture format. In order to test question 3, chi-squared tests were used. Results indicate that there were significant differences in preferences for lecture format (refer to Table 3). Thus, the findings suggest support for research question 3, significant differences exist in preferences for lecture format. Specifically, more hybrid students preferred audio/visual recorded lectures (40%) over both classroom lectures (36%) and text-based lectures (9%) ($\chi2(3)=27.70$, $p<.0001$). More online students preferred audio/visual recorded lectures (71%) over text-based lectures (13%) ($\chi2(2)=218.1$,

p<.0001). Student preference of audio/visual recorded lectures over text-based lectures were no different between the hybrid and online sections ($\chi^2(2)=4.76$, p = .093).

Table 1: How would you rate the quality of the lectures? (Hybrid Students)

Likert Rating	Classroom Lectures	Recorded Lectures	Text Lectures
Very Good	54	38	25
Good	27	42	31
Neither	10	10	32
Somewhat	1	1	6
Poor	2	1	0
Very Poor	0	0	0

Table 2: How would you rate the quality of the lectures? (Online Students)

Likert Rating	Recorded Lectures	Text Lectures
Very Good	163	66
Good	138	165
Neither	32	80
Somewhat	6	29
Poor	0	0
Very Poor	0	0

Table 3: Which lecture format did you like best?

	Hybrid Students	Online Students
Classroom	34 (36%)	NA
Audio/visual recordings	38 (40%)	241 (71%)
Text-based	8 (9%)	55 (16%)
Not sure	14 (15%)	43 (13%)

DISCUSSION AND CONCLUSION

It was not surprising that hybrid students rated the quality of classroom lectures the highest of the three formats for this particular course. Quality of classroom instruction, although largely influenced by the teaching skills of individual instructors, may have been rated higher at least in part due to the type of non-traditional material provided in this course. Examples of this material are coping techniques (e.g. communication skills, cognitive restructuring, etc.) and relaxation techniques that involve altering thoughts to affect physiology (e.g. meditation, diaphragmatic breathing, etc.). One important difference between a stress management course relative to other courses is the emphasis on the affective domain of learning, rather than on the traditional cognitive domain. Students' psychosomatic ability to get into a relaxed state is arguably an important learning outcome more so than scores on traditional cognitive measures such as exams. Thus, students' perception of face-to-face instruction may be influenced by the type of material disseminated by that instruction. Further research is needed in order to understand whether differences of students' perceptions of classroom lectures and audio/visual recordings of lectures are based on type of learning outcome (e.g. cognitive, affective, psychomotor, or psychosomatic).

The fact that hybrid students' preference for lecture format did not match their perceived quality of lecture format was somewhat surprising. Students preferred audio/visual recordings more so than the classroom lectures despite rating the quality of classroom lectures above that of the audio/visual recordings. This may have been due to a convenience issue. Recorded lectures have been shown to

provide students with more control over their schedules and learning, allowing them to review lectures at their own pace and at a time and place of their choosing. Thus, recordings, to an extent, may offer a more learner-centered approach for lectures (Traphagan, Kucsera, and Kishi 2010). Due to students' busy schedules, it is understandable that convenience might be viewed as more important than quality of lectures. Additional research is needed in order to determine factors associated with this discrepancy.

It was not surprising that online students overwhelmingly preferred audio/visual recorded lectures (71%) over text-based lectures (13%). However, these results are somewhat in contrast to the findings of Grabe (2008). Audio recordings were regarded by students as less efficient and less useful than text-based lecture summaries. However, lecture summaries as a supplement is very different than actual lectures, which was the focus of the current study. Again, the author admits that because students in this study were not asked to explain their use of these lecture resources, the findings are regarded as speculative. Nevertheless, additional research may shed light on factors associated with the optimal use of text-based versus audio-based lectures.

With the continual growth of online courses at institutions of higher education, student preferences and perceptions regarding the manner in which material is disseminated is an important factor to examine. Prior to placing classes online, the type of learning outcomes and the best lecture format for achieving those outcomes should be carefully considered. Regarding lecture format, an important finding from this study is that perceptions of quality may not always match preference. As such,

student preferences may not always be the optimal method for disseminating material.

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