Online Instructor's Use of Audio Feedback to Increase Social Presence and Student Satisfaction

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Abstract

This study investigates the impact of written group feedback, versus audio feedback, based upon four student satisfaction measures in the online classroom environment. Undergraduate students in the control group were provided both individual written feedback and group written feedback, while undergraduate students in the experimental treatment group were provided both individual written feedback and audio group feedback. Using a one-tailed t-test, the four student satisfaction measures were analyzed and one was found to be significant for students' perception that the instructor seemed genuinely concerned with whether students learned. The authors believe the study, when combined with their previous research, has significant impact on understanding strategies for improving instructor effectiveness with online students. Furthermore, the authors believe this area of student satisfaction resides primarily in positive perceptions of instructors' engagement and "social presence." In addition, the authors believe the provision of audio feedback (either individual or group) to be more time efficient, while allowing for increased instructor creativity. Finally, the use of audio feedback may be perceived as more accessible or practical by the student, rather than written feedback alone.

Keywords: Student Satisfaction, Online Learning, Instructor Effectiveness, Online Course Achievement, Social Presence

INTRODUCTION

Given the significant increase in both the availability of, and enrollment in, on-line learning classes (Zha & Otendorfer, 2011), instructors are consistently faced with new questions regarding the use of learning management systems (LMS), effective delivery of course content, feedback on assignments, evaluation of learning, and student satisfaction. In a previous study, the authors (Trumpy & Portolese Dias, 2013) explored the relative benefit of group (class as a whole) feedback on assignments, in addition to "individual feedback only," in the on-line environment. The results of this study revealed significant benefits of group feedback on positive student perceptions of instructor engagement. Therefore, the next logical question for the authors to explore involves the relative methodological benefits of written vs. audio feedback to the class as a "whole group," in an on-line environment, as evidenced by levels of student satisfaction with instructors.

LITERATURE REVIEW

The Dialogue between Teacher and Learner

Moore's Transactional distance theory (1972), discusses the development of a distance transaction between student and teacher. In his theory, Moore addresses how this relationship is influenced by three main aspects: the dialogue developed between the instructor and learner, the structure that refers to the degree of structural flexibility of the program, and the autonomy that alludes to the extent of learners control over learning procedures. The focus of this research will be on the first influencer: the dialogue between teacher and learner, through the use of audio feedback, in the online classroom.

In his research, Moore (1972) perceives dialogue as an element connected with the quality of the communication, rather than the frequency of the communication, resulting in high quality feedback can equate to quality communication, both of which are necessary to facilitate a productive online learning environment. In addition, since online students often feel isolated, personal and individual comments can go a long way in giving students reassurance of their learning, and confidence in their abilities (Kasprazak, 2005). Supporting this research, Ko and Rossen (2001) discuss lack of feedback in the online classroom as one of the main reasons for course withdrawals.

What Makes Feedback Useful?

Additional research on feedback by Notar, et al. (2005), notes that useful feedback, in an online class, must be diagnostic, prescriptive, formative, and iterative. Furthermore, feedback should be provided in a both a group assessment and peer setting. According to Mory (2004), students believe feedback should be prompt, consistent, ongoing, formative, summative, constructive, specific, and consistent in order for it to be useful to their education. This research provides the instructor with an excellent basis for the type of feedback to be provided, while still leaving a question as to the best modality of feedback, versus the drawbacks to providing such feedback.

Instructor Challenges When Giving Feedback

Now that we have discussed the importance of feedback to the student—instructor relationship, we will attempt to unite three main issues surrounding feedback in an online classroom: The time it takes to provide feedback, the rate at which students actually review the feedback, and students' perception of the instructor as a result of the feedback.

Due to the use of new technologies, quality feedback can come in several forms: written, audio, or video—some of which can be more time intensive than others. In addition, peer feedback can also be provided using each of these modalities. On average, face-to-face instructors expend 14.77 minutes per week, per student, evaluating course work. In comparison, online instructors spend a median of 48.72 minutes per student, per week (Van de Vord & Pogue, 2012). Early online course research by Newberry (2001) suggests synchronous technologies, such as face-to-face, video conferencing, audio, and chat features are rated richer in value than asynchronous technologies, such as threaded discussions, email and written feedback on assignments in an online class. Intuitively, synchronous technologies are more time intensive than asynchronous technologies. For example, while students found audio feedback on assignments useful, this type of feedback took twice as long as text-only feedback, according to Mathieson (2012).

Another possible suggestion, to minimize time but maximize value of feedback, revolves around the use of peer feedback on assignments. In a study by Ertmer, et al. (2007), peer feedback was viewed as less valuable than instructor feedback. In addition, students initially reported challenges with anxiety in giving and receiving peer feedback, perceived value of the feedback, and reliability issues with peer feedback. The study revealed students benefited more by giving feedback—than from receiving feedback. This study only reviewed discussion board feedback, and not written assignments. This result, while assisting with instructor time issues, may not be applicable to all courses. In another similar study, students were chosen as discussion leaders. This type of peer involvement was proven valuable to both online learning and student engagement (Zha & Ottendorfer, 2011). However, this study utilized a discussion board format,

which may not be a viable option some online courses. With new built-in technologies, such as those in Canvas' (open source) Learning Management system, the time to create audio feedback files has decreased. For example, one study at West Virginia University found that it actually took less time to provide audio feedback than written feedback. The audio feedback took the instructor just 3.81 minutes per student, while written feedback took 13.43 minutes per assignment (Ice, et al.; 2007).

In addition to the time it takes to provide valuable feedback to enhance the instructor-student relationship, there is question in the literature as to whether students even read, watch or listen to feedback. In a study performed by Clements (2006), students reported that comments on papers are more indecipherable, tend to make little sense to them, and were more likely to be disregarded altogether. As a result, feedback that was easier to understand was usually included in revisions of the same assignment, or applied to future assignments. Referring back to the issue of time, it could reasonably take twice as long to review two drafts, versus only the final draft, which does not offer a solution to our first problem, management of instructor time when giving feedback. Lunt and Curran (2010), report students are 10 times more likely to open audio files, when compared to written feedback files. A study supporting this claim, by Merry and Orsmond (2008), found students responded positively to a combination of written and audio feedback. In the study, the students judged the audio feedback to be of good quality, compared to written feedback only. Thus, audio feedback was viewed as providing more depth, perhaps because the feedback provided suggestion strategies for solving problems, rather than just stating what the problems were (Merry & Orsmond, 2008). Copley (2007), studied podcasting as both a means for delivering lectures and helping students prepare for assignments. This data supports

the contention that students will positively incorporate feedback, but it may find it easier to incorporate when delivered in an audio format.

A final issue, with online course feedback, lies within the perceived instructor engagement by students in an online class. In research performed by Duvall, et al. (2003), the "social presence" of the instructor was found to be an important factor in student perception of the online classroom. The social presence, in the online classroom, includes the extent to which the instructor is perceived as a "real, live person," rather than an electronic figurehead. In an online classroom, there are eight possible social presence cues identified by Abdullah (1999) and Rourke, et al. (2001). These cues include humor, emotions, self-disclosure, support or agreement for an idea, addressing people by name, greetings, complimenting another's idea, and illusions of a physical presence. It is possible that these social cues, which allude to faculty engagement, can occur more easily in audio, as opposed to written feedback. In addition, research by Wise, et al. (2004), indicates social presence in an online classroom many not have an impact on learning, but does directly impact the student perception of the instructor.

Supporting this research, in a previous study performed by the authors, an experimental group of students was provided both written individual feedback, and written group feedback, while the control group was provided with individual feedback only. Four areas of a standard student satisfaction with instructor's evaluation were compared. One measure, "The instructor was actively engaged in class," was significantly improved ($p > .05$) when both individual and group feedback were provided. The investigators believe the more feedback provided, the more social presence is felt by the students, resulting in higher satisfaction overall in the course (Trumpy &

Portolese Dias, 2013). While the feedback provided was not synchronous, there was still a higher student perception of engagement by the instructor, when both types of feedback were provided. An interesting outgrowth of this study was the implication that the ratings for actual feedback on learning were non-significant, between the two groups, but the added provision of the group feedback significantly impacted the positive perception of instructor engagement in the online classroom, independent of the actual feedback provided.

This review of the literature illustrates three important points: students do review feedback (Clements 2006); audio feedback is believed to be less time intensive, especially with new audio tools in learning management systems; and feedback does, in fact, impact instructor levels of social presence/engagement in the online environment.

RESEARCH QUESTION

Do students attain a higher level of instructor satisfaction on student evaluations when provided with audio group feedback, versus written group feedback only?

Hypothesis

It is the authors' expectation students will report higher levels of satisfaction with instructors when provided with audio group feedback, as opposed to written group feedback.

Study Design

During fall quarter, 2012, two groups of ADMG385 Business Communication students (n=49), at Central Washington University, were provided with written individual feedback (per assignment) and written group feedback, posted as an announcement to the class as a whole. The written group feedback addressed specific common mistakes and successes made by the class, as

well as mentioned future assignment due dates, and tips on successful completion of those assignments. This is the control group.

During spring quarter, 2013, two ADMG385 Business Communication classes were provided individual written feedback and group audio feedback on assignments using Screencast™ (a free tool that allows recording of audio and desktop). This is the experimental treatment group (n=50). The group audio feedback included general feedback about the weekly assignments, as a whole, and also discussed upcoming assignments and tips on successful completion of the upcoming assignment. The type of feedback was the same as the control group, just in audio form.

The individual feedback, provided to both groups of students, commented on specific grammar, technical, and content aspects of the assignment. From an ethical perspective, the investigators felt it important to provide written feedback to each group, along with the control and treatment group feedback. Each individual-based written feedback, for both the treatment and the control group, included at least five written comments on grammar and/or other mechanical corrections, as needed.

The course studied, as mentioned above, is ADMG385, Business Communication. In the course, students write letters based on a scenario provided to them. The first set of written feedback provided below was for a "good news message" formatted letter, and the second was for a "bad news message" formatted letter. Examples of the type of written feedback for these assignments include:

- Make sure to check the formatting in the "read me first" folder. For example, headings are single spaced within the paragraph, and there is a specific format for your TO: FROM: lines.

- Sometimes, complete sentences are needed for clarity. Don't be afraid to expand on your sentences to further explain them to the reader, even if you are using bullet points.

- Richness in writing occurs when we use as many sources as possible to get our data. Consider always using 2+ resources to develop complete information provided to your reader.

- Please make sure to check your individual comments for specific feedback. Wednesday night, you have Module 6 assignment, Module 6 quiz and Bad News Message #1 due. Also, make sure to take the mid-quarter survey, located in the Module 6 folder.

  This written feedback was provided for a “bad news message” letter:

- I have completed grading your bad news messages #2. Make sure to read your individual feedback, but some general feedback on these memos:

- Note that for bad news memos, you want to make this a deductive message, for example, thank employees up front for working nights/weekends, give them reasoning for a new policy then state the policy. In bad news messages, you do not want to state the “bad news” up front.

- Assignment required “company” letterhead.

- Written in memo format since this is internal communication.

- Try to provide several reasons why a new policy is being implemented. For example, if you only mention allergies, this can cause issues amongst employees as those who want to bring their dogs may blame those with allergies. You could have also mentioned insurance reasons, property damage as other reasons besides allergies.
- As you know, Module 7 assignment, quiz and your persuasive message are due on Wednesday night. I hope you are having a great week! Let me know if I can help.

The audio feedback included the same type of information as the written information, but was delivered in audio form instead. There also included a greeting such as “I hope your week is

going well. I would like to provide some general feedback on your assignments, and talk about upcoming assignments," before feedback was discussed.

After each quarter ended, the results of the student evaluation scores (Student Evaluation of Instructors: SEOI) were compared using the following measures:

#2: Instructor seemed genuinely concerned with whether students learned.

#5: Instructor was actively engaged in class.

#10: Instructor provided useful feedback on student work.

#11: Instructor provided timely feedback on student progress.

The investigators analyzed the control and experimental treatment groups responses to these questions, using a one-tailed t-test.

RESULTS

An independent sample t-test (one-tailed) was conducted to determine the difference between satisfaction levels of students who were in the control and treatment groups.

Table 1

Results for Question Two: “Instructor seemed genuinely interested in whether students learned”

	Fall 2012	*Spring 2013*
Mean	4.705882353	4.945945946
Variance	0.577540107	0.052552553
Observations	34	37
Hypothesized Mean Difference	0	
Df	39	
t Stat	-1.769444731	
P(T<=t) one-tail	0.042319469	
t Critical one-tail	1.684875122	
P(T<=t) two-tail	0.084638939	
t Critical two-tail	2.02269092	

Results for question two, “instructor seemed genuinely interested in whether students learned” has a p-value of .04, indicating a statistically significant difference between the two feedback groups.

Table 2

Results for Question Five: “Instructor is actively engaged in class”

	Fall 2012	*Spring 2013*
Mean	4.714285714	4.857142857
Variance	0.56302521	0.18487395
Observations	35	35
Hypothesized Mean Difference	0	
Df	54	
t Stat	-0.977269758	
P(T<=t) one-tail	0.166396783	
t Critical one-tail	1.673564906	
P(T<=t) two-tail	0.332793566	
t Critical two-tail	2.004879288	

Results for question two, "instructor is actively engaged in class" has a p-value of .17, therefore indicates no statistical difference between the two feedback groups.

Table 3

Results for Question Ten: "Useful feedback on student work"

	Fall 2012	*Spring 2013*
Mean	4.735294118	4.810810811
Variance	0.624777184	0.157657658
Observations	34	37
Hypothesized Mean Difference	0	
Df	48	
t Stat	-0.501920902	
P(T<=t) one-tail	0.309008914	
t Critical one-tail	1.677224196	
P(T<=t) two-tail	0.618017828	
t Critical two-tail	2.010634758	

Results for question ten, "useful feedback on student work" has a p-value of .30 therefore indicates no statistical difference between the two feedback groups.

Table 4

Results for question Eleven: "Timely feedback on student progress"

	Fall 2012	*Spring 2013*
Mean	4.764705882	4.891891892
Variance	0.609625668	0.099099099
Observations	34	37
Hypothesized Mean Difference	0	
Df	43	
t Stat	-0.885963707	
P(T<=t) one-tail	0.190282568	
t Critical one-tail	1.681070703	
P(T<=t) two-tail	0.380565135	
t Critical two-tail	2.016692199	

Results for question eleven, "timely feedback on student progress" has a p-value of .19 therefore indicates no statistical difference between the two feedback groups.

For questions 5, 10 and 11, the results show little difference between the providing of audio feedback versus group written feedback. However, significant results ($p>.05$) appear for question two; "instructor seemed genuinely interested in whether students learned."

Possible Study Limitations

Internal validity issues may stem from the four questions chosen, and whether or not they actually reflect student satisfaction with feedback. Lack of variation in responses could have caused errors, since many of the responses on a 1-5 scale were a 5, with minor variation from the high score. In addition, possible bias when answering the questions because of social desirability, feelings toward the instructor, or expected final grade could have affected the study. In addition, the response rates for the sections were different.

External validity limitations include the generalizability of the study. The four populations studied may not be adequately generalized among the population of students. In addition, since the study took place over two different quarters (fall and spring) students could have a different perception between the several months between quarters.

DISCUSSION AND RECOMMENDATIONS

The principled argument postulated that audio feedback would be viewed as more impactful to students' perception of instructor effectiveness and learning, than written feedback. Although three of the SEOI questions did not show significance, the investigators found the students' perception of the "instructor as genuinely concerned with whether students learned" to be significantly improved (question #2). Therefore the hypothesis is accepted.

Given the significance of question #2 (instructor seemed genuinely interested in whether students learned), combined with the authors' previous instructor engagement findings, it is reasonable to believe that two potential valid measures of "social presence," have been uncovered for the online environment. Relating back to the literature review, the eight possible social cues identified by Abdullah (1999) and Rourke, et al., (2001): humor, emotions, self-disclosure, support or agreement for an idea, addressing people by name, greetings, compliment another's idea and illusions of a physical presence, could have been more easily noted by students because of the audio form. For example, humor and illusion of a physical presence could have been more easily perceived as social presence because of the nature of audio. As a result, students' viewed the instructor as supportive and caring of their learning.

While the other measures did not change with the control and the treatment group, it could be that a group audio file was not different enough from written group feedback to create significance levels on perceptions of instructor engagement, timely feedback, and useful feedback.

A focus of our literature review was the use of instructor's time when providing feedback in an online classroom. We believe more recent studies and the use of new technologies (such as Canvas audio tool) mean that audio feedback does not take as much time as previous studies have indicated. This type of tool (in Canvas) does not require upload and download by student—it appears right in their paper. In the study, it took approximately five minutes using a Jing software screencast to upload to record and upload the audio file. Jing is a screencasting tool, which is free to download. It is easy for the instructor to download the free software and record audio while visually showing their desktop. For the student, this is a simple copy and paste the link into the browser to hear the audio. Imbedded audio and video grading tools, such as those in the Canvas (an open source learning management system), may take only a few minutes per student. As a result, the perception of instructor caring about students' learning (question two) can be increased when audio group feedback is provided versus written group feedback.

Group audio feedback, group assignment preview, or feedback using may enhance social presence, allow for easier implementation of suggestions to future assignments, thereby improving students learning. In addition, as we discussed in the literature review, audio may even take less time than written feedback.

Future Areas of Study

Future areas of study might include a similar study but with a larger sample, including several courses and different instructors to look at the value of group audio feedback. While this study looked at audio group feedback versus written group feedback, a possible study would include

comparing student satisfaction between audio and video feedback. It is possible video feedback could provide a greater social presence than audio feedback.

Our literature review focused on whether or not students used feedback (audio or written), and then implement the feedback within their assignments. Although out of the realm of this study, this could be a possible area for future research. For example, a researcher could track if a student listened to the feedback audio file and compare that data with student's eventual grade.

A study tracking the time it takes an instructor to provide audio feedback versus written feedback is needed, given the new tools available lessening the time it takes for individual student audio feedback on assignments. In addition, a study, measuring grade differences between groups who received individual audio feedback versus written feedback only, might show the value of feedback. Furthermore, this design may shed light on whether students apply feedback more readily with audio, versus. written comments.

The importance of student satisfaction in online classrooms is of upmost importance to all online instructors. Understanding how we can better serve students, and increase satisfaction levels through feedback, is an important topic for further discussion and research.

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