

Enhancing Teaching Presence and Reducing Distance Using Voice Technologies

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Abstract: This presentation reports on the preliminary findings of a case study where we take a look at the possible improvement in teaching presence when voice is used to offer assignment feedback. The research occurred during an online course taught in English by two Canadian instructors to Croatian educators located in Croatia. The study is grounded in Transactional Distance theory and the Community of Inquiry model as it relates to social, cognitive and instructor presence. Some discussion addresses the role of assessment and feedback in constructivist approaches, focusing on the challenges and the advantages that voice technology — for one-way or two-way communication — can bring to online learning.

Introduction

The E-Learning Academy is an online post-graduate certificate jointly developed by Croatian Academic and Research Network (CARNet) and the University of British Columbia (UBC), Distance Education & Technology (DE&T) and the Centre for Managing and Planning E-Learning (MAPLE), with the goal of preparing Croatian administrators, educators, and IT people in post-secondary institutions to implement educational technologies. The Croatian participants in the first semester of an E-Learning certificate were taught in English by two Canadian instructors. The foundation course that comprised this first semester is delivered totally online and uses a very constructivist course design, integrating numerous discussions and interactions at the class and group level. This presentation specifically focuses on the use of voice feedback by the instructors and the effect on the participants' perception of teacher, social and cognitive presence.

Research problem

The choice to use voice feedback was motivated by two reasons:

1. The desire to create a stronger teacher /social presence. Although the students were able to function effectively in English at the level required, we felt that language subtleties that serve to create presence in text-based learning environments (e.g. humor, sympathy, emotion) might not be received or processed, and that the introduction of voice might help to create it.
2. In adopting a constructivist design to the course, there was a need to provide quality feedback efficiently to students. As instructors, we recognized that by recording our feedback orally, it would not only be faster than written feedback, but that we might also be able to provide more feedback, and emphasize the strengths of the students and the areas that they needed more work on, before submitting the final assignment.

Therefore, the questions that guided this research are:

1. Can the use of voice help to increase the social/cognitive/teaching presence in an online course characterized by linguistic, cultural, and geographic distance?
2. Is voice an effective way to provide feedback in an online course?

Literature Review

Transactional Distance (Moore, 1973)

Transactional distance is a pedagogical theory introduced by Michael Moore to the field of distance education. This theory dates from 1973, and was developed at a time when distance education was characterized by correspondence courses (usually paper based), where a geographic separation between the student and instructor allowed few opportunities for interaction. However, rather than focus on the geographic characteristic that defines distance, Moore attempted to identify the psychological distance in distance education.

In his theory, Moore focuses on the interplay of three variables that define the learning transaction between teacher and students — structure, dialogue and autonomy. Structure refers to the design of the course and the level of control that the instructor or students have within that structure. Dialogue refers to the positive or constructive interactions between the student and the instructor and/or the internal dialogue of the student with him or herself. Autonomy refers to the ability of the student to take responsibility for his or her own learning. Therefore, a learning context that has a high level of structure and little dialogue would have a large transactional distance. A context that had a low level of structure and low level of dialogue would also have a large transactional distance and would additionally require a higher level of autonomy on the part of the learner. However, the same context with a high level of dialogue would potentially be less distant.

There are potentially many secondary variables that have an influence on the transactional distance. These include the mode of communication or communication tools, the characteristics of the learners, the instructor characteristics, and the institutional context. In the context of the student, the mode of communication is particularly relevant since it directly relates to the language of instruction.

To summarize Transactional Distance theory, we conclude that successful distance learning experiences are a delicate balance of:

- Providing appropriate opportunities for dialogue using appropriate communication tools.
- Providing appropriately structured learning materials that are sensitive to learner characteristics.

Community of Inquiry Model (Garrison, Anderson, & Archer, 2000)

The Community of Inquiry model was developed for the purpose of taking a closer look at computer mediated communication (CMC) in educational contexts. Three components that construct this model — social presence, cognitive presence, and instructor presence — are essential to the creation of learning communities.

Social presence

There is an abundance of research that looks at the role or importance of social presence in online learning communities, and the way in which online courses try to incorporate a structure that will enhance or encourage social presence. In its origins social presence theories “...focused on the medium's capacity for social interaction specifically, the presence or absence of verbal or nonverbal cues in mediated communication” (Biocca, 2003:460). We have now moved past that definition and know that the medium is just a casual variable shaping the social interaction, and “...presence is a highly dynamic and transient state based on the knowledge of the other, content of the communication, environment, and social context” (Biocca, 2003:469). It includes the feeling (perception) of awareness, accessibility, and availability of the other to self.

Cognitive Presence

Garrison, Anderson, and Archer (2000) define cognitive presence as “the extent to which learners are able to construct and confirm meaning through sustained reflection and discourse in a critical community of inquiry” (p. 11). Online discussions have been shown to improve students’ perceived learning (Wu and Hiltz, 2003), and learners who perceive their social presence to be high also perceive their learning and their satisfaction with the instructor to be high (Richardson and Swan, 2003). However, one of the challenges of intercultural contexts is that language affects the ability of the student to effectively participate in the learning community.

Teaching Presence

Teaching presence is defined as the “design, facilitation, and direction of cognitive and social processes for the purpose of realizing personally meaningful and educationally worthwhile learning

outcomes” (Garrison, Anderson, Archer, 2000). In other words, a strong teaching presence requires good facilitation skills in encouraging social and cognitive presence. This is of pedagogical importance since building a positive social dynamic or sense of community encourages knowledge construction in online learning (Woods & Ebersole, 2003).

According to both the Transactional Distance and Community of Inquiry models, deep and meaningful learning can be achieved “as long as one of the three forms of interaction (student-teacher; student-student; student-content) is at a high level. The other two may be offered at minimal levels, or even eliminated, without degrading the educational experience” (Anderson, 2002, p. 4). High levels of more than one of these three modes will likely provide a more satisfying educational experience, though these experiences may not be as cost or time effective as less interactive learning sequences.

For both models the effects are measured based on students’ perceptions about the learning environment. Both are pedagogical phenomena but the community of inquiry is built solely on how CMC technology is mediating that communication.

We should also consider the results of other related research:

- In a study conducted at the University of Alaska Southeast, 75% of students surveyed (n: 355) reported having problems with lack of interaction or lack of quality interaction with their instructors (Schrum & Ohler, 2005, p. 72.).
- High levels of interaction with classmates is correlated with higher levels of course satisfaction and higher levels of learning (Swan, 2002).

Presence and Media Choice

The type of communication tools being used to facilitate “educational transactions” can influence the quantity, quality, and type of interaction. One-way technologies can better facilitate internal dialogue. Synchronous technologies allow two-way communication in real time, and while this communication does not allow a lot of time for reflection it allows for an immediacy of interaction between the communicators. Asynchronous technologies allow two-way communication that is not real time, allowing for potentially more reflection, but less immediacy. Since reflection is considered an important part of the learning experience, asynchronous technologies have typically been favored as a mode of communication in Distance Education. Furthermore, research tells us that students who are interacting in a second language will benefit more from asynchronous communication (typically text discussion forums) since it allows them more time to process the message, the option to reread or replay, and to construct responses on their own time (Carey, 1999, Carey & Guo, 2003).

In addition research comparing media and presence, Robert and Dennis (2005) offers the following propositions:

- A variety of media are needed at different stages. The use of mixed media produces a more creative and higher quality solution.
- Credibility or likeability have a greater effect on processing when they are presented through video or audio as opposed to printed media.

Chepya (2005) reminds us that we will know if an instructor has made a good media choice when the pedagogical technique and technology of choice let his/her skills and abilities shine through.

Use of Voice for Assignment Feedback

Feedback is one of the key elements of the learning process; it opens a great opportunity for the instructor to address each student individually and to offer comments in relation to his/her performance in all areas (knowledge, skills and attitudes). An important condition that needs to be present when feedback is given is time for the student to process the information received and to reflect. To paraphrase the educational reformer, John Dewey — we don’t learn from experience, we learn from reflecting on the experience.

The decision to use voice feedback in our study (in addition to a written evaluation rubric) was motivated by a desire to personalize the message, and to increase motivation and attention to important elements of the exercise that were expected. At the same time, we believed that it would offer a mode of communication that would allow us to openly show our skills and personalities while providing students with time to reflect and elaborate on the information presented.

The Case Study

Our case study provides a close look at the design and implementation of voice feedback within an e-learning foundations course that is 100% online and uses Computer Mediated Communication. The Foundations of e-Learning course is an introductory course for any of three certificates (Managing e-Learning, Tutoring e-Learning, and Designing for e-Learning). The aims of the course are to understand the assumptions and rationale behind the implementation of e-learning at the institution, program, and course levels. Participants learn what technologies are available, their characteristics, and the instructional design principles to implement them. Most students are instructors or administrators in K-12 or higher education, while some are in more of an IT role in the public and private sectors.

The course design consists of three modules of five weeks, six weeks, and five weeks respectively and is delivered entirely online using a WebCT platform. The first module provides a historical overview of e-learning and some of the rationales and assumptions around its implementation. The second module addresses teaching and learning theory and practice, while the third module focuses on selecting and using technology. The learning activities are learner-centered, collaborative, and authentic, in that in each module a portion of the grade is allocated to participation in online discussions and to an assignment that applies the concepts of the module in the preparation of proposal or analysis of e-learning in their institutional context.

This case study focuses on the feedback given on the second assignment (Module 2) that asked them to apply some of the key concepts around teaching and learning theories to an e-learning planning issue for their institution. As instructors, our own teaching philosophies influenced the construction of feedback for these assignments. In alignment with the constructivist design and the role of authentic tasks, we wanted students to apply the concepts introduced in the modules to their own contexts without the fear that they were being assessed on the validity of the context. We also emphasized that language was not being evaluated. For these reasons, we applied clear expectations for the task and scoring criteria, by creating evaluation rubrics based on the criteria for the assignments. This was a transparent way of communicating to students how they were assessed and where they had or hadn't succeeded in meeting the criteria. We also provided detailed comments on specific aspects of the rubric as it related to their submission — in the case of the second assignment it was this part of the feedback that was voice recorded.

We used an mp3 player with a microphone to record small wav files which were then uploaded to WebCT with the rubric to the Assignments tool area. Once all the students had received their feedback, we created a discussion forum thread, where we asked for student feedback concerning technical problems accessing the feedback, and what they liked or didn't like about receiving voice feedback.

Results

In a discussion forum thread, we asked for student comments on the following aspects of voice feedback:

1. Did the students have trouble downloading/opening the file?

We were happy to learn that none of the students had trouble accessing the files and downloading them, despite the fact that some of the sizes ranged from one minute to eight minutes of recording, and most of the students were using a 56K connection.

2. What did the students like about having voice rather than text feedback?

Students had some interesting comments. We have grouped their answers into three categories:

a. Students found the voice feedback provided greater detail and insight (cognitive presence):

Student A: *“Thank-you very much for feedback. Using audio is great! Really, it provides detail overview of results, and insight to our task.”*

Student D: *“As I heard, you've been through a lot of trouble to get this result, but if you ask me - IT WAS WORTH IT! I got so much more information than in your first feedback (Module 1 Assignment). I hope it will be easier for you the next time, if you decide to keep this practice. Thanks.”*

Student H: *“I am sure, voice feedback gives an additional information to the feedback, and this is what I like.”*

b. Students found the voice feedback to be more personal (social presence):

Student K: *“I have to say I had no problem with written either, but this is I think more*

personal and real. I also had no trouble opening it. Thanks!"

Student I: *"I think too that voice gives more personal touch. I like your accent. That's one thing I could never guess with text".*

Student B: *"It's really nice to hear tutor's voice. For once I have feeling I'm in the classroom! :-)"*

Student N: *"I think that voice feedback is an excellent idea — gives personality to the feedback"*

- c. One student saw this method of feedback as an opportunity to respond and engage in a dialogue about the content (instructor presence).

Student C: *"Thanks for your evaluation — it is very motivating :) Just want to explain one of the reasons why I did not go to deep in 5C's evaluation..."*

Student I: *"P.S. I have attached an mp3 voice recording of myself for you with Audacity"*

3. What aspect didn't they like?

Student M: *"I don't like the sequential nature of voice recording (but it is my general problem with voice and video)."*

From the perspective of the instructors, we felt that voice enabled us to:

- Use verbal cues like tone and volume to emphasize important assignment elements
- Encourage and connect with each student in a more individualized way
- Project ourselves in a superior and more personal way than using text alone. Students also felt the presence "personality" was comparable to the feeling of being in the classroom.

We believe that the choice of the technology and the pedagogical technique (feedback) was appropriate. Using a medium with a low social presence to give feedback allows the student to take more time to process and elaborate on the information. This allows the instructor to showcase both the social-human element (tone, emotion, enthusiasm, and encouragement) and the instructional-managerial element, emphasizing specific points of importance to the student. Therefore, the medium was excellent in projecting the instructor's skills and abilities as a facilitator and subject matter expert. The introduction of the audio in the middle of the course also generated motivation and attention — elements that helped the student focus on the task in hand.

Conclusions

In a constructivist environment the teacher becomes another participant, but he/she is still responsible for grading and giving feedback. The quality and quantity of this feedback is an essential piece of the student's learning. The use of "audio" is an excellent medium to provide feedback and relate to students in a more personal (one-on-one) way, i.e. showing them that you know them and the work they have done, using the content of the course and the environment to enhance conversation and reminding them of the expectations. At the same time, it can be more efficient for the instructor to provide feedback via audio than written text.

Audio would also be useful as a presentation, as a means for an instructor to introduce themselves to the group. It is an excellent approach to create awareness, present the course goals and content (cognitive presence), set expectations (teacher presence), and set the climate (social presence).

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