

Using Multimedia to Build a Sense of Community with Online Distance Learners

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Online students often experience feelings of isolation and a lack of a sense of community from the institutions they attend (Palloff & Pratt, 1999). However, by implementing a variety of multimedia tools into the online classroom, students can hear and possibly even see their instructors. In this present study, a combination of live video chat, text messaging, and recorded videos were integrated as supplemental learning options in a student teaching course for future educators. These students, who were in the last course of their program, offered pre- and post-survey feedback describing the degree to which select multimedia tools had an impact on their learning process.

Online students face the challenge of learning how to navigate the online classroom and completing assignments often in an asynchronous platform. Students are typically working at a distance far in proximity from their institution, instructors, and peers and cannot interact in person with the instructor. It is necessary that online instructors have a variety of methods for interfacing with each of his or her online students to clarify students' questions and to address any concerns. The problem is determining the best means of communication between the online instructor and the online student.

Background and Justification

Online students tend to feel disconnected from the institution they attend. Without a clear design, frequent interaction with instructors, and active discussions with peers, student satisfaction or sense of belonging can be significantly lower than traditional ground classes (Swan, 2001). The nature of new learning environments makes it difficult to determine which strategies should be used and why (Shea, 2006). In addition, distance educators have the task of meeting the needs of a variety of learning styles, lack of experience with technology, and student motivational factors (Smaldino, Lowther, & Russell, 2012). Not all students are well suited for the online learning environment. Online courses should have the structure, transparency, and potential for communication in order to affect stu-

dent satisfaction (Swan, 2001). Nevertheless, there are a variety of strategies a distance educator can implement in order to overcome the challenges of computer-mediated interaction, including building rapport with the student and meeting individual learning needs.

Instructors must discover, create, and implement methods to facilitate ongoing interaction with students. Smaldino, Lowther, and Russell (2012) suggested teacher-led and student-led strategies like teacher presentation and demonstration, student presentation, text, illustrations, live or recorded voice messages, and full-motion images. Learning must continue online, just as the learning would occur in a face-to-face or traditional environment. Online learning requires adjustments on the part of both the students and instructors (Picciano, 2002). The research in this study will demonstrate which means of communication engages online distance learners into the course material. Further, the results of this study will aid universities in implementing instructional strategies in the online environment that can benefit the targeted audience.

Audience

Results of this study may be relevant to students, instructors, and other university faculty. The intended audience of this study is online curriculum and instructional designers, online instructors, and additional individuals at universities involved in

making instructional or curriculum decisions. Individuals involved in the decision-making process for curriculum and course design implementation need to be aware of the multimedia tools available to appeal to the target market. By implementing the multimedia tools, universities can build a stronger sense of community for their online students.

PURPOSE

The purpose of this study was to determine how connected students were prior to beginning their last course in the program and the impact of each of the implemented interventions. The study addressed whether or not previous instructors incorporated multimedia in the online classroom. In addition, the study assessed what multimedia tools helped to create a stronger connection with the instructor, the university, and what multimedia tools aided the students in successfully completing the asynchronous coursework. The researcher used quantitative design to collect and analyze data.

METHODOLOGY

Participants

The participants of this study were undergraduate students enrolled in a College of Education, entering their final course, the student-teaching experience. During the student-teaching experience, students participated in day-to-day classroom experiences with a mentor teacher, as well as completed assignments for corresponding online coursework. Limited risk was involved for each of the participants, as specific demographic information was not collected from the participants. Responses will remain 100% anonymous. The sample size consisted of 58 students. Of the 58 students, 56 students were female and two were male. Based on the students who revealed their age, the age range of participants was between 20-45 years old. Each of the participants interacted with the instructor for a total of 16 weeks.

Defining the Variables

The variables in this study were multimedia tools and students. The instructor utilized a variety of multimedia tools in order to appeal to visual, auditory, and kinesthetic learners. Multimedia tools include embedding video recordings, audio recordings, and the use of live web-conferencing.

Definition of Terms

Multimedia: Audiovisual technology has the possibility to appeal to multiple senses (Januszewski & Molenda, 2008). Multimedia encompasses text, audio, still or animated images (Smaldino, Lowther, & Russell, 2012). Januszewski and Molenda (2008) explained that the implementation of multimedia allows the learner to transform the learning experience “from a solitary to a collaborative one” (p. 30).

Video recordings: According to Shearer (2007), the purpose of video recordings in an online classroom is to allow students the opportunity to follow along interactively or the ability to refer to the recording later. The video recordings allow the learner to “look at, listen to, or view various media” in addition to reading course textbooks (Simonson, Smaldino, Albright, & Zvacek, 2012, p. 96). Instructors can use web cameras built into the computers, small web cams that can be attached to the computer, or video recording software that can be downloaded and run from a PC or Mac (Ko & Rossen, 2010). For the video clips to be effective, instructors should have a clear goal and proper context. They should limit the length and, most importantly, review the video to assess quality and content prior to showing the video to students (Zhu & Kaplan, 2011).

Audio recordings (podcasts): The exact meaning of a podcast is still under debate. While some believe podcasting includes the use of streaming video and web players, others believe podcasting is the downloading of media using syndication technology (Harrington, Weiser, & Pixel, 2008). Geoghegan and Klass (2007) defined podcasting as “an audio program available for download from the Internet via subscription by way of an RSS feed with MP3 audio enclosures” (p. 238). Simonson, Smaldino, Albright, and Zvacek (2012) note that some of the characteristics for effective podcasting includes explaining a single idea, a recording that is three to five minutes in length, a part of a series relating events to one another, easy access, and currently or frequently updated. The benefits of podcasting for students is that the information is portable and always available (Geoghegan & Klass, 2007).

Video-enhanced chat: Video-enhanced chats can be accomplished using synchronous presentation tools like Adobe Connect, Elluminate Live!,

Wimba, and even Skype (Ko & Rossen, 2010). Shearer (2007) claims these methods are effective for small groups and for collaboration on group projects. The video chats can occur in a synchronous platform and then can be recorded to post in the classroom or on accessible websites for students who need asynchronous delivery. Whether audio, video, or mixed media, the intent of the integration is to build a sense of community for online students and to help diminish the feeling of isolation or solitude.

Isolation or solitude: The goal of reducing the feeling of isolation or solitude begins by answering key questions relating to how connected students feel to their online instructors and the university they attend. Fouche (2006) compared the feelings of isolation for students as a separation of “multiple islands in the ocean” (p. 1). Online students can connect several ways: email, WebQuests, computer conferencing with peers and with instructors, and by building a virtual community (Smaldino, Lowther, & Russell, 2012). A common element for learning in the classroom includes social and communicative interaction between teacher-student and student-student (Picciano, 2002). To keep students connected to instructors and peers, as well as develop a sense of community in the online classroom, some or all of the multimedia methods should be present.

Community: Ouzts (2006) noted that in order to have increased satisfaction toward online learning, students must have a perceived sense of community. The three components of values, trust, and mutual support are part of high functioning communities (Shea, Li, & Pickett, 2006). To promote the development of online learning communities, social, technological, and pedagogical processes should be embedded in the online learning environment (Shea & Bidjerano, 2010).

Research Questions

This study asks the following research questions:

1. How connected to the university do online students feel?
2. How connected to the instructors do online students feel?
3. Does the implementation of multimedia into the online classroom have an impact on students' sense of community?

Procedures

Each classroom intervention is described below. The description includes how the instructor integrated the tools into the online classroom. In addition, justification for choosing specific options is offered. The procedures are not in sequential order, as some of the procedures were implemented more than once.

Calling students prior to the start of the course. On the day before class began, the instructor went through the course roster and phoned each of the students in order to welcome them to class. The instructor maintained a call log in an Excel spreadsheet. This log tracked contacted students, as well as those who only received a voice message. Each student's specific name was not recorded, only the frequency of calls and messages.

Using weekly video announcements: On the first day of each module, the instructor posted a video created using Camtasia, digital recording software. Content of the video included a navigation tour of where students locate course content, in-depth instructions on how to complete weekly assignments, as well as a review of the rubrics, which were used to assess the coursework. The instructor embedded videos into the course announcements, where students automatically watched the recordings by hitting a play button. In addition to video, the instructor also included images to connect a face with the name.

Inserting images into discussion postings: To allow students to see a face behind the name on the computer screen, the instructor inserted a professional photo into each reply in the Cyber Café. The Cyber Café is where the students posted a biography and both the students and instructor interacted to get to know one another. In addition, the instructor posted an instructional video, which showed students how to insert a professional photograph of themselves.

Having students create a Glogster or insert images into discussion postings: A Glogster is an online website where students can create an “About Me” poster for free. The posters can include photos, music, and messages if the user chooses the additional options. Glogster served as an icebreaker activity to add a personal touch to sharing biographies in the Cyber Café. Students were not required to utilize the Glogster feature. It was optional. Additional software was not required for use.

Sharing instructor website: As part of a previous project for the instructor's doctoral coursework, the instructor posted a personal website housing a variety of resources for teachers. During each course, the instructor shared the website and posted special updates on the blog feature. Because the students were in classrooms during the student teaching experience, the instructor's website was an additional tool to aid students in creating lesson plans. Learning about supplemental materials can be an important part of the collaborative experience for new teachers.

Sharing supplementary resources related to course content and student teaching: Sometimes students may find a discussion question difficult to understand, which may lead to a general feeling of confusion about course assignments. By including supplementary materials that further explains discussion questions, visual and auditory learners may have less difficulty understanding the written text. Additionally, articles from professional publications were shared, such as Edutopia or Education Week, in order to extend the weekly concepts. By posting additional resources, students had access to tools to aid in comprehension of the weekly concepts. When students were in need of further clarification of resources, the students could reach out via email, phone, or instant chat.

Providing the opportunity for an instant chat: Many students were in rural communities and did not have many resources available. In addition, online students who do not live near campus often feel isolated. By providing an instant chat feature using a tool like Skype, students had the option to communicate with their peers or instructor in order to brainstorm, complete peer reviews, or have someone to communicate with when needed.

Data Recording Procedures

Two survey instruments were utilized. Both of the surveys were crafted and administered through SurveyMonkey, a convenient online survey delivery tool. The survey instruments were designed by the researcher and were reviewed and validated by a survey design expert; the survey design expert has both a masters and doctorate in instructional technology and has worked in the field of instructional technology for the past 10 years. Participants were given hyperlinks to the online surveys through the classroom course mail. Participants

were not required to answer every question. Once all responses were recorded, the researcher was able to access the bar graphs through SurveyMonkey to begin the analysis.

Data Analysis

Based on the number of sections assigned to the instructor, 58 students were invited to participate. Out of the 58 students, 56 students were females, and two students were males. Of the 58 students, 44 students participated in the pre-course survey, and 32 students participated in the post-course survey (see Appendix A and B). As all of the students were enrolled in the last course of study, the researcher assumes the decreased participation in the second survey was due to graduation related distractions.

Prior to the start of the course, 38.6% felt connected to peers, 34.1% felt connected to the instructors, and 41.9% felt connected to the university over the course of their program. As far as not feeling connected, 15.9% did not feel connected to peers, 13.6% did not feel connected to the instructors, and 11.6% did not feel connected to the university at all. At the conclusion of the course, over 50% of the participants felt connected to the instructor, which is approximately a 16% increase (see Appendix C and D).

The results from the post-survey demonstrated several strategies for universities to consider concerning the integration of multimedia. On eight of the post-survey questions asked, 50% or more of the students strongly agreed with the importance of multimedia. The two strongest areas included 59.4% of the students stating they would have felt more connected to the university if all of their previous instructors had used multimedia, and 59.4% claiming that hearing their instructor's voice helped to build a strong connection. When asked to rank each of the strategies used, viewing weekly video announcements and connecting with the instructor as the two most important elements of their online classroom experience. Further exploration is needed to develop a list of best practices that can help online educators establish a connection with students in the classroom.

CONCLUSION AND RECOMMENDATIONS FOR FUTURE STUDIES

An obstacle to keep in mind when implementing the research strategies presented includes the

type of learning management system (LMS) the university utilizes. LMSs like ANGEL and Blackboard have the capability to insert hyperlinks and embed images and video, whereas LoudCloud has limited features. Students are more inclined to participate with the tools if they have quick and easy accessibility. While the LMS chosen depends on cost, size of the student population, and ease of implementation, instructional designers should keep in mind how easy the LMS is to navigate for the instructor and the student, what tools are available within the LMS, and the impact of the interaction with the LMS on student and instructor retention.

There are several points that need to be considered for future research. For example, is gender a factor in using multimedia to build a sense of community for online students? Is age a factor? Lastly, would the time of intervention affect the results? For example, if interventions were performed earlier in the program, would this affect the feelings of connection?

The results of this study indicate that by implementing multimedia in the online classroom throughout a student's educational experience, the feeling of connection to peers, the instructor, and the university could increase. Future research should explore additional multimedia tools instructors could easily implement into online learning management systems, as well as the impact such tools have on student performance. In addition, future research could examine how multimedia has an impact on learners across disciplines or by college affiliation. Research on the impact of multimedia in online courses is important for many reasons. The most important for instructors is the improvement of best practices. For universities, such research could lead to improved online student satisfaction, as feelings of isolation may reduce for online students as multimedia integration increases.

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Appendix A

PRE-COURSE DOCUMENTS

The following are the letters sent to the members of EED480N Sessions A and B in order to invite the students to participate in the study.

Pre-Survey Letter

Dear Students,

Welcome to EED480N! My name is Jennifer Ashton and I will be your instructor for the next eight weeks, and possibly even the next 16 weeks if you are with me for Session B ☺ During this course I will be using a variety of multimedia in order to disseminate important information, including specific directions on how to complete your weekly assignments and on how to have a successful student teaching experience. If you could please take a moment to complete the following survey to assist with my research, I would greatly appreciate your help. Your survey responses are voluntary and anonymous and participation or non-participation will not impact your grade. When completing the survey, if you do not wish to answer a question, you may skip and move on. You may also discontinue taking the survey at any time or withdraw from the study without penalty. At the conclusion of the course, I will be providing you with an additional link following up with your impressions of the various multimedia.

Pre-Survey

1. Have any of your instructors in the past included videos with supplemental materials?
2. Have any of your instructors in the past used audio recordings to present the weekly lecture/

overviews?

3. Have any of your instructors in the past provided links to additional resources?
4. Have any of your instructors in the past shared a photograph of themselves? (Example: by inserting an image by their signature)
5. Have any of your instructors in the past shared a personal website they created with additional tools you can utilize related to your field of study?
6. Have any of your instructors in the past called you by phone to introduce themselves?
7. Have any of your instructors offered to communicate using an instant chat tool? (Example: Skype)
8. With this being one of the last two courses in your program, how connected do you feel to the university?
 - Not connected at all
 - Somewhat connected
 - Connected
 - Very connected
9. How connected have you felt to your instructors?
 - Not connected at all
 - Somewhat connected
 - Connected
 - Very connected
10. How connected have you felt to your peers?
 - Not connected at all
 - Somewhat connected
 - Connected
 - Very connected
 - Appendix B
 - Post-Course Documents

Appendix B

The following are the letters sent to the members of EED480N Sessions A and B in order to receive feedback after the conclusion of the course.

Post Survey Letter

Dear Students,

Congratulations on completing your student teaching experience! As mentioned at the beginning of the class, I would like

your assistance in completing this short survey to let me know your feelings in regards to the multimedia used throughout this course. This will be a two-part survey. The first part of the survey will let me know your impression of each piece of multimedia and the second part of the survey I would like you to rank the order of importance of each type of multimedia. Again, your survey responses are voluntary and anonymous, and participation or non-participation will not impact your grade. When completing the survey, if you do not wish to answer a question, you may skip and move on. You may also discontinue taking the survey at any time or withdraw from the study without penalty. Thank you so much for your time in advance in assisting me with completing my research.

Post Survey (Part I)

1. Do you feel the weekly video announcements aided you in completing the weekly assignments?
 - Strongly Disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree
2. Do you feel the instructor's website provided resources you could use in the student teaching experience, as well as resources you can use in the future?
 - Strongly Disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree
3. Do you feel seeing a photo of the instructor helped to make a stronger connection for you?
 - Strongly Disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree
4. Do you feel hearing the instructor's voice helped to make a stronger connection for you?
 - Strongly Disagree
 - Disagree
 - Neutral

- Agree
 - Strongly Agree
- Did you use the instant chat feature (Skype) at any time throughout the course(s)?
- Yes
 - No
5. Do you feel supplemental articles/videos the instructor shared helped you to better understand the course content?
 6. Did the methods of instruction and use of multimedia help to make you feel more connected to your instructor?
 - Strongly Disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree
 7. If methods of instruction and use of multimedia, such as the content of this course had been used throughout your program, do you feel you would have had a strong connection to the university all along?
 - Strongly Disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly Agree
 8. At any time throughout this course, did you take the opportunity to connect with your peers?
 9. At the beginning of the course, or at some point in the course, did you create a Glogster or insert an image of yourself into course messages for peers to view?

Post Survey (Part II)

Please take a few moments to rank the following in order of importance from 1-10, 1 being the most important, 10 being the least important.

Thank you!

- ___ Viewing weekly announcement videos
- ___ Participating in instant chats
- ___ Receiving a phone call from my instructor
- ___ Seeing a photograph of my instructor
- ___ Viewing additional links to articles and videos about course content
- ___ Using the instructor's website
- ___ Being connected to my peers
- ___ Being connected to my instructor
- ___ Being connected to the university
- ___ Seeing photographs of my peers

Reminder Email

Good Evening!

Thank you to those of you who have completed the pre/post survey. If you have not yet completed the pre/post survey, please take a moment to complete the survey so I can compile all of the data. The survey should take less than five minutes to complete. Remember, your survey responses are voluntary and anonymous, and participation or non-participation will not impact your grade. When completing the survey, if you do not wish to answer a question, you may skip and move on. You may also discontinue taking the survey at any time or withdraw from the study without penalty. I greatly appreciate your assistance with this research 😊

Follow Up Thank You

Thank you to everyone for participating in the survey. I hope you enjoyed the course and each of the multimedia tools created to make this a positive learning experience. I know everyone is extremely busy and I truly appreciate all of your help. I wish you the best of success in your future teaching careers!

Appendix C

PRE-COURSE SURVEY RESULTS

Figure 1

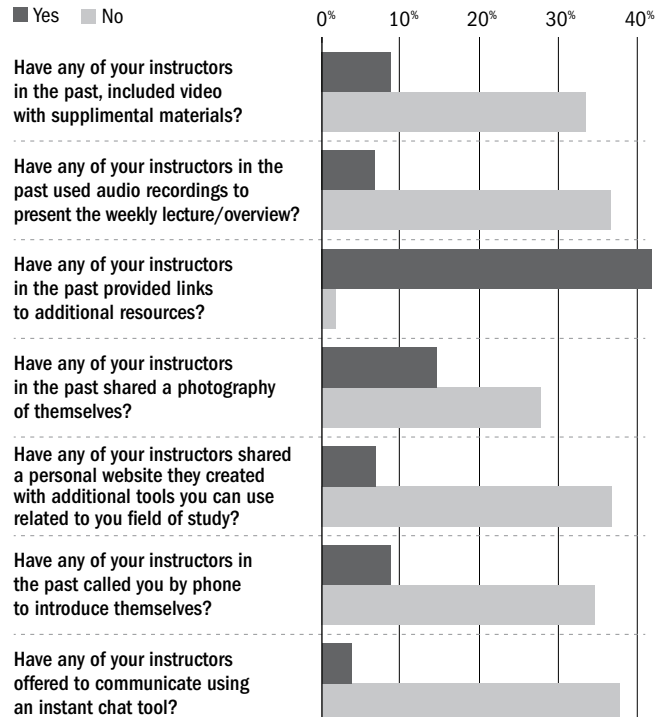
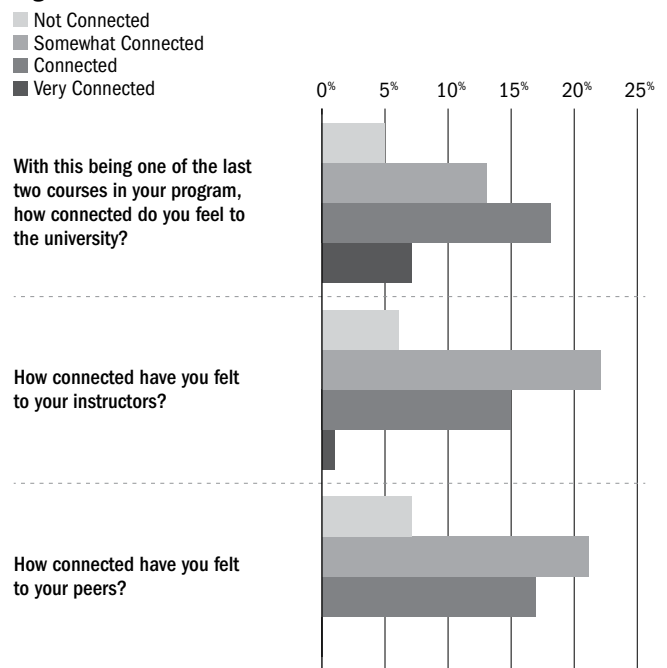


Figure 2



Appendix D

POST SURVEY RESULTS

Figure 1

- Strongly Disagree
- Disagree
- Neutral
- Agree
- Strongly Agree

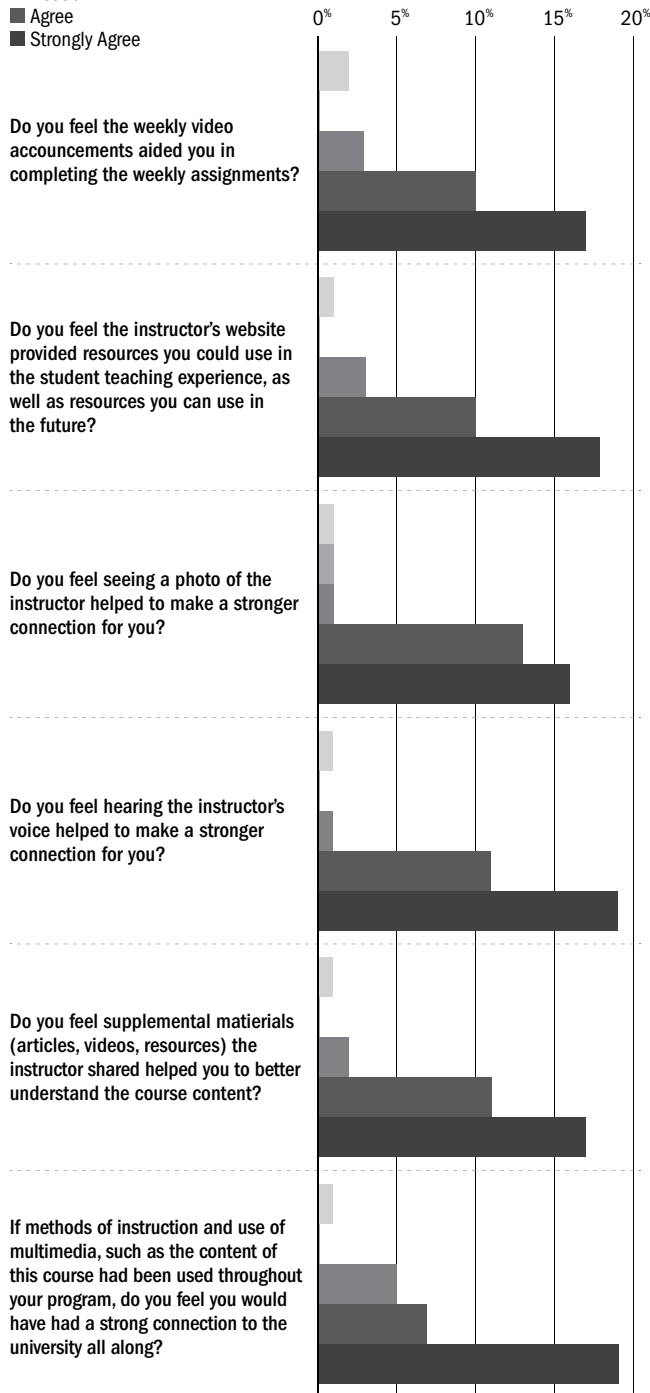


Figure 2

- Yes
- No

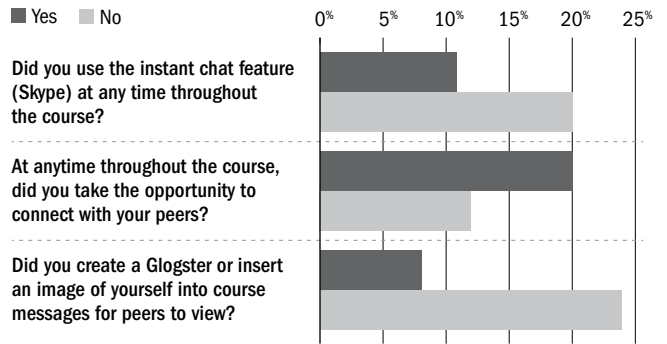
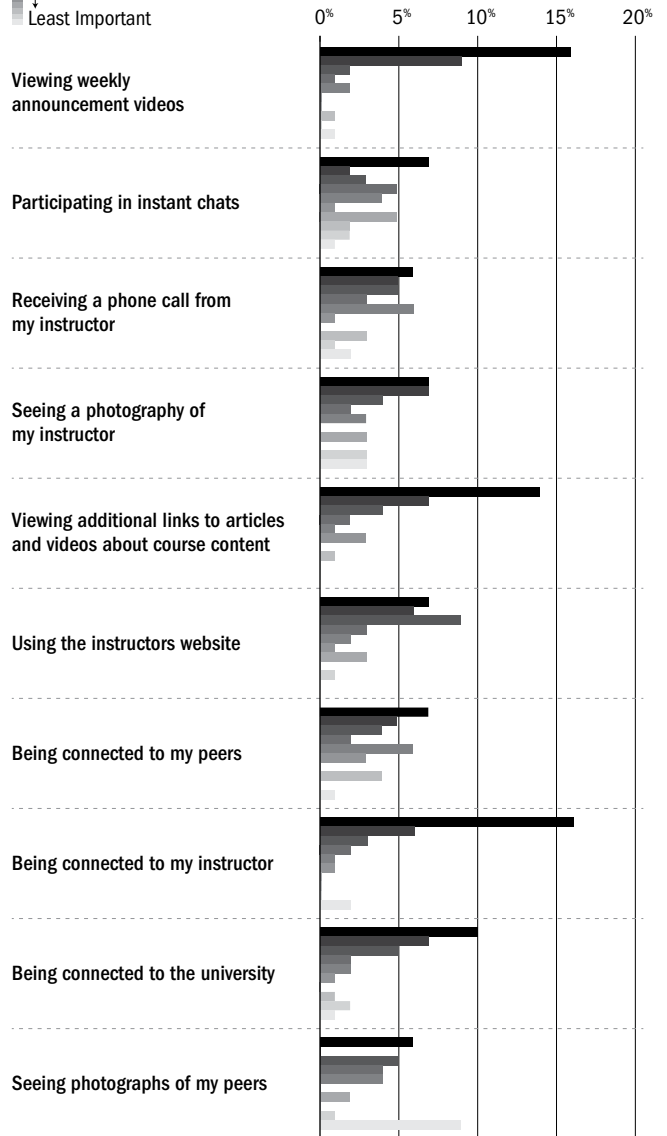


Figure 3 | Ranking Factors of Importance

- Most Important
- Least Important



Author Biography

Jennifer Ashton has been active in the distance learning community through professional organizations, as an online professor, and as an online student for the past ten years. With a passion for lifelong learning she continues to study elements of distance education including social presence and a sense of community. She currently holds a Bachelors in Business, a Master's Degree in Management, a Master's Degree in Elementary Education, and is in the final stages of her dissertation for a doctorate in Instructional Technology and Distance Education.