

Technology Orientation for Distance Education Students: Can It Help?

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Abstract: Online learning has become an increasingly popular mode of delivery in higher education. Many working adults and individuals living in rural areas depend on distance education courses and programs to further their educational goals. There is, however, a fear factor for inexperienced technology users and people returning back to school after a long absence. Studies suggest that offering an orientation may provide positive learning experiences that can ultimately help students gain self-efficacy and successfully complete their programs. A Skype orientation instructional module was created and tested by first-time distance education students during the second week of instruction. Data was collected on the effectiveness of the module and on students' technological perceptions of themselves. Implications of this data are discussed in this paper.

Introduction

Distance education (DE) is an essential means of higher education for working adults, older adults, and adults with families (Ashby, 2002). Students have the ability to complete their educational goals while working and raising a family. Web 2.0 applications have provided a seamless way to integrate technology into DE programs. There is, however, a student population that has little or no technology experiences, which can cause computer anxiety (Palaigeorgiou, Siozos, Konstantakis, & Tsoukalas, 2005). Student's attitudes and beliefs about computers can play a role in causing computer anxiety. In the article, *Preparing students to take online interactive courses* (Stokes, 2000) suggests that half of the student population in DE courses start off as inexperienced technology users and recommends students take computer classes prior to starting an online program. Peng, Tsai, and Wu (2006) also state that prior educational experiences and a degree of technology skills are important in that they play a role in attitudes towards education and technology.

The intent of the research for this paper was to measure whether or not providing a non-threatening environment of learning new technologies in DE could incorporate positive learning experiences. By providing positive learning experiences, students will have an opportunity to increase their sense of self-efficacy, which can help motivate them to complete their program of study. As a first step to creating an orientation of technology, the study focused on one application called Skype, a free collaboration tool that can be

downloaded from <http://www.skype.com>. A Skype instructional module was created using Jing and Microsoft PowerPoint. The module was housed on Lulima, an open-source course management system provided by the University of Hawai'i. During the orientation students participated by logging into their Lulima accounts and were given an option to follow the PowerPoint presentation on their computer or use the handouts.

Review of Literature

A literature review on DE and technology revealed several points of interest for this project. In April of 2000, the Institute for Higher Education prepared a study to determine benchmarks for success in internet-based DE called *Quality on the Line*. In the study, six institutions participated in interviews and surveys. The conclusion of this study suggested that these colleges' technical support and training in DE needed improvement. One of the recommendations was to have practice sessions for students before they started an online course. Miller and Pope (2003) pointed out the importance of having an orientation because it can introduce students to technology, which can play a role in impacting a students' success. Peng, Tsai, and Wu (2006) suggested that educators should provide more learning opportunities of "internet-themed learning." Sam, Othman, and Nordin (2005) suggested that the more practice a student has using Internet tools can help to foster the student's satisfaction and motivation. They also suggested that providing workshops of applications used in a course of study could improve the students' attitudes towards learning.

Abitt and Klett (2007) used pre-tests and post-tests to measure perceived self-efficacy in a workshop of technology integration in education and found an increase of comfort levels for participants. Bandura (1994) defines personal self-efficacy as people's beliefs in their capabilities to exercise control over their own functioning and over events that affect their lives. Having a strong sense of self-efficacy can enhance a person's well being and provide a greater sense of accomplishment. Torkzadeh, Pflughoeft, and Hall (1999) concluded a "clear influence" of providing computer training experiences and a student's self-efficacy.

Study Overview

The purpose of this instructional design module was to provide an orientation of using Skype for first-year DE students. Skype is an application that allows users to use voice interaction, instant messaging, and offers visual interaction while connected to the Internet. The module was designed to provide information for downloading Skype, setting features, and completing a Skype call.

An email was sent to 130 Kaua'i Community College first-year DE students inviting them to participate in the orientation. A poster was created and placed in front of the learning center at Kaua'i Community College to alert computer users of the orientation. Eighteen students replied to the announcement and eight students participated in the orientation, which was held during the second week of instruction.

Methodology

The participants were first-year DE students residing on the island of Kaua'i. Their ages ranged from 17-20 (2), 21-30 (1), 31-40 (2), and 40 and above (3). All participants are planning to complete a four-year college degree and have rated themselves as having average or above average prior educational experiences.

The module consisted of five sections. At the beginning of each section, an instructional objective was provided to learners. The performance objectives were stated in specific measurable terms and students were informed of the expected outcomes. The modules were created using Jing, a video and screen shot application. Each section was placed in a PowerPoint presentation that was uploaded to Lulima. The various points of instruction that the modules covered were: Skype Introduction; Download Skype; Choose a Skype Name; Add Photo; and Add Contact. Students concluded the orientation by making a Skype call.

The module was designed to give small chunks of information and have students participate in order to create a time for cognitive recognition and retention. Between each section, students had an opportunity to chat on Lulima to discuss what worked and what did not work. The orientation was completed in one hour.

The participants completed a pre-test before starting the module and a post-test at the end of the module. The five pre-test and post-test questions asked questions about what the students should know at the end of the instructional module. Students could pick from a list of answers to each of the following questions.

1. Skype software allows you to.
2. Skype is a tool used to.
3. Your Skype name will be.
4. You can select a Skype picture by.
5. To add a contact.

The questions were designed to determine the effectiveness of the instruction and the overall design of the orientation.

The participants also took a survey at the beginning and end of the orientation, which consisted of Likert scale items, yes and no, multiple choice, and open-ended questions. The data gathered in the surveys focused on personal demographics, technology skills, educational experiences, and perceived personal self-efficacy.

Results

The pre-test and post-test data showed an increase in learning about Skype except for the Add Photo section of the module as depicted in the bar graph below (Figure 1).

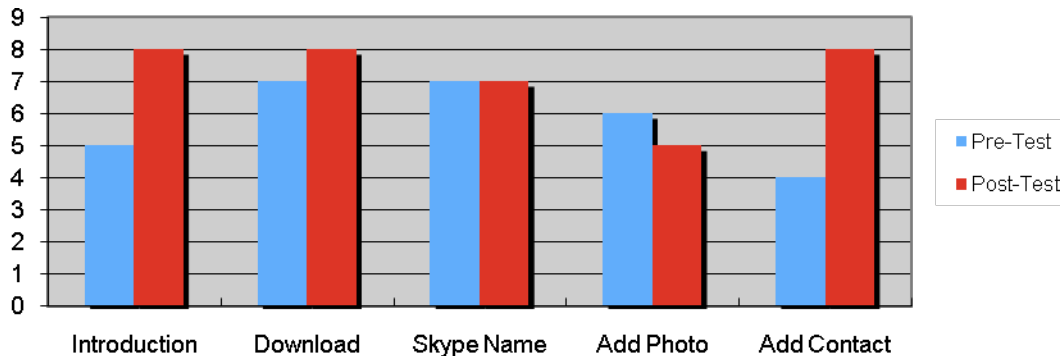


Figure 1. Skype Data

The results of the survey were as follows: three students had prior experiences with DE courses. When asked about technology skills all had average or above average skills. Six of the participants agreed that having an orientation can help in an online class, one was undecided, and one student disagreed. When asked if they felt anxious about their first online course, seven agreed and one person disagreed.

Students were asked about their previous educational experiences and all rated themselves of having average or above average prior educational experiences. All students with the exception of one person agreed that gaining experiences using DE tools could help students successfully complete their online courses.

There were two opened-ended questions to the pre-module survey. One question asked the students what their educational goals were and all of them indicated that they planned to continue their education at a four-year college. The second open-ended question asked students why they came to the Skype orientation. There were a variety of comments such as:

- “I hope it will benefit me in my ability to succeed in my online course of study.”
- “I’ve heard a lot of positive things about Skype and wanted to learn what it can do.”
- “Need help to know where to go and do things on this Laulima website.”
- “I don’t know what it is but I’m sure I will need it for future online classes.”
- “I’m interested in learning about Skype.”

At the end of the orientation, students were asked to fill out another five-question survey. One of the questions asked students if they gained valuable experiences using Laulima during the Skype orientation. Six participants agreed, one was undecided, and one disagreed.

Table 1. Data from Surveys

Topic	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
Confident taking DE course.	3	2	3		
Believe DE orientation will help.	5	1	1		1
Feels anxious about online course?	2	5		1	
Believe gaining experiences in DE tools will help.	3	4			1
Feel more comfortable using DE tools.	1	7			
Believe DE skills have improved.	2	5	1		

Students were also asked if they felt more comfortable about using Laulima in the future. All of the participants agreed that they did. Students were then asked if they believed that their skills using a DE tool have improved. One student was undecided and the other seven agreed (Table 1).

The two open-ended questions in the post survey revealed that three students would like to learn more about Skype, while one student was interested in learning more about Laulima. Students were also asked to comment about the orientation. Those comments include:

- “This was an awesome orientation.”
- “It kept me busy the whole time and it taught me more about Skype.”
- “Did a great job.”
- “Excellent presentation, excellent hands-on help as well.”

Implications of Research

The sample size of this study (n=8) limits the conclusions and will not be used to generalize for the larger population. The information gained from this research can, however, give us some idea of how an orientation impacts a portion of DE students at Kaua'i Community College. The first area of interest was the effectiveness of the instructional module. Data displayed in Figure 1 shows that most of the sections were effective except for the Add Photo section. After further review of this section it was determined that clearer instruction is needed in this section. Having students participate by asking them to add the photo or change their current photo will enhance this section. Although this outcome seemed negative it did tell us that these students learn by doing and because of this lack in the instructions of the module we were able to discover this by default.

As shown in Figure 1, the two sections with the most gains of learning were the sections on Skype Introduction and Add Contacts. In reviewing the chat session, the highest amount of chatting occurred during these two sections as well. There could be many factors that may have affected this outcome. One possible explanation was that these were the first and last sections of the module, which may have caused the students to pay more attention. Another possible explanation may be because these two sections were visually appealing to the students. Having another orientation that asks more direct questions about each section might help to discover the cause of these outcomes and maybe include a post-test after each section might improve clarification.

The survey also revealed that students felt confident about taking a DE course but also felt anxious at the same time. Dictionary.com explains anxious as someone feeling distress or uneasy and confident as someone having strong beliefs; sure of oneself; and excessively bold. This information reveals that confidence and anxiousness are independent of each other. Sam, Othman, and Nordin (2005) found that undergraduates with negative attitudes about using the Internet often had computer anxiety. Peng, Tsai, and Wu (2006) conducted a study on students' Internet perception called, *University students' self-efficacy and their attitudes toward the Internet: the role of students' perceptions of the Internet*. They found that students' Internet perception depended on prior Internet experiences. If a student used the Internet to play or perform web searches they had more positive attitudes toward using the Internet, and thus, would also be more confident when using the Internet.

Conclusion

The module was created to gather data to confirm if having an orientation for first-year DE students could help decrease students fear and increase personal self-efficacy by providing an opportunity for positive learning experiences. By increasing personal self-efficacy beliefs, individuals can motivate themselves to complete their educational goals and continue forward when adversity comes their way. Despite the relatively low number of participants, all students who participated in the DE orientation felt that having such an orientation and gaining experiences using the tools were helpful. Feedback from participants was positive and students genuinely enjoyed participating in the orientation. There were a few constructive comments to help improve the overall DE orientation experience and will be taken into consideration when modifying the modules. Overall, students enjoyed the orientation and indicated that they would like to participate in other technology orientations. Further studies should be conducted using the Internet self-efficacy survey and the Internet attitudes survey. A larger, global pool of participants would also help to strengthen the study.

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