Abstract: With the increasing use of computer technology and the Internet in educational settings, online resources including electronic journals are quickly gaining grounds as a primary source for references. Such online educational pursuits can result in serious consequences if users do not properly credit the owners of intellectual property they use. The purpose of this online piracy and plagiarism module was to increase awareness of online piracy and plagiarism to ultimately increase the use of strategies to avoid violations for college students. The twelve participants in this study were undergraduate and graduate students of the University of Hawai‘i who voluntarily and independently completed the module. The study found that even though most of these students were aware and had prior knowledge about online piracy and plagiarism, the pre-test and post-test scores showed an increase in understanding of the content in most of the participants. Future improvements of the module include increasing the information presented and redesigning it for broader audience.

Introduction

The increasing use of computers and the Internet in universities and K-12 schools change the way we learn and communicate with our teachers and peers (McLoughlin & Lee, 2008; Klein, 2008). Universities have leveraged the Internet to offer fully online courses to reduce geographic proximity or distance as a determinate in accessing courses. Computers and the Internet allow students to conduct online research and share their products with their peers. While conducting research and creating projects, students may knowingly or unknowingly share information they find online without giving proper credit to the authors or share audios files and/or videos whose copyright belongs to others (Knight, Almeroth & Bimber, 2004; Wilkinson, 2009). Online piracy and plagiarism can be committed by anyone at anytime, given the easy access to online information and the copy-paste functions available on computers (Ueta & Tominaga, 2010).

The intent of this instructional module is to decrease online piracy and plagiarism violations for college students by defining, describing, showing examples, and sharing strategies for proper citation behavior. Participants who learn about online piracy and
plagiarism in this module may be able to avoid downloading illegal online music and be lawful by giving credits to the authors or producers for their work.

**Background**

Today many students use computers and the Internet for personal as well as educational uses, whether it is in private or public universities and schools (Ueta & Tominaga, 2010; Taylor, 2004). The University of Hawai‘i (UH) also offers wireless Internet service throughout the university area for faculty, students and administrators. Similarly, online and distance education is also on the rise (Ueta & Tominaga 2010). Even in face-to-face courses, the use of Internet and online tools like Laulima, a Sakai-based learning management system that UH has adopted, is commonly found. With the easy and free access to the Internet, many UH students go online to conduct research, write papers, share their work, and to buy books, music, movies and software. With the increasing use of the Internet, the probability of individuals downloading digital products illegally tends to increase (Bonner, 2010). With the increasing use of illegal sharing of copyrighted material, businesses are losing revenue, thereby many people are losing their jobs (Recording Industry Association of America, 2011). According to the Recording Industry Association of America (RIAA) (2011), music piracy causes global economic losses in the amount of $12.5 billion every year.

As seen in several research studies, students are one of the most likely groups of people who have the potential to commit online piracy and plagiarism due to several reasons. First, copyright infringement can happen due to lack of knowledge and ignorance (Knight et al., 2004; Wilkinson, 2009). Second, carelessness could be a factor that can contribute to piracy and plagiarism (Wilkinson, 2009). Third, students could be committing copyright infringement to avoid paying for the resources they use (Snow, 2006). College students are most likely to share the music and videos with their peers because they are unaware of ethical use of copyrighted online material (Bonner & O'Higgins, 2010). To create awareness, many universities and schools provide their students with an Acceptable Use Policy, known more commonly as the A-U-P, and instructors may also inform their learners about avoiding online piracy and plagiarism. However, some learners still fail to follow the rules (Bonner & O'Higgins, 2010). Learners who were aware of the issue of online piracy and plagiarism may not be aware of the actual penalties and outcomes of such unethical work (Bonner & O'Higgins, 2010). Therefore, this module will be instrumental in raising awareness to help reduce piracy and plagiarism at the University of Hawai‘i.

**Methods**

In this study, the target participants were UH students. The primary objective of the study was to evaluate the effectiveness of the module on increasing participants' understanding of online piracy and plagiarism. Today the increasing use of computer and the Internet in education systems make it essential for students to understand the proper use of intellectual properties. While the Internet provides easy access to resources, it is imperative for students to learn the ethical use of such resources. The module was created
to inform the participants about online piracy and plagiarism, how it can be avoided, and consequences of the performing such unethical behavior. The module was developed using instructional design methodology (Dick, Carey, & Carey 2008). An instructional hierarchy and subsequent test items were revised 10 times with the review of two one-on-one and three peer reviewers as will be described later. To assess the participants’ understanding, five different tests were conducted throughout the instructional module - a demographic survey, a pre-test, an embedded test, a post-test and an evaluation survey. The pre-test was conducted to gather the participants’ understanding of the content before they went through the module. The embedded tests provide the participants the information about the content of the module. The post-tests were conducted to access the participants’ understanding and skills following their exposure to the module. The demographic survey was designed to yield information on the characteristics such as gender, education, and the use of Internet. A five-level (one being strongly disagree and five being strongly agree) Likert-scale evaluation survey further provided information on the effectiveness of the module. These tests together determined the effectiveness of the instructional module to meet the ultimate goal which was to provide information and encourage students to avoid online piracy and plagiarism. Data for all tests were gathered through Google forms. Each participant created an identification number (ID) using the “Random ID Generator” provided to them on the website (Appendix 1). All the participants entered the generated ID to each test section. Each participant clicked an agreement button to voluntarily participate in the survey before proceeding to the test items.

Participants

UH undergraduate and graduate students were asked by the researcher through e-mail, flyers or in person to participate in the study. All the participants were familiar with computers and were involved in online activities for both school and home use. Some of the participants had a good understanding of online piracy and plagiarism whereas others were less aware of the same. The lessons for the instructional module were composed for students to learn about online piracy and plagiarism.

Design

The learning module was developed to be accessed and used online using different web-based programs. The website was created using an online tool called Weebly. The module consisted of 28 web pages including tests and instructions. A menu bar was located on the left side of each webpage to enable easy navigation. Each page of the website was provided with arrows to easily navigate to the previous or next pages. The website included an introduction, a consent form, content information, pre-test, embedded test, post-test, a demographic survey and an evaluation survey. The introduction section provided the information regarding purpose of the module, estimated duration, and what to expect throughout the instructional module. The instructional strategies for online piracy and plagiarism module were based on Gagne's Nine Events of instruction. The instructional strategies for this online piracy and plagiarism module were organized in four small clusters or lessons. The lessons provide the information about
online piracy and plagiarism, some commonly use citation styles, buying intellectual property and respecting other people’s work. Each lesson included a few topics and related content to provide information to the participants. The appropriate and resourceful YouTube videos related to the content were embedded in the module to provide detailed visual information. Google forms were embedded to collect all the data from the participants. To make each participant’s identity anonymous, the Random Identification (ID) Generator was used (Haar, 2011). The participants used the ID generated while performing the tests and evaluation.

Evaluation

The instructional module was reviewed by two one-on-one and three peer reviewers. The one-on-one session was conducted online and reviewers used their own computer and Internet access at their own place, pace and time. One-on-one reviewers were asked to complete the module and provide their feedback on the module, its effectiveness, grammatical errors and content of the module. Similarly, peers were also requested to do the same. Feedbacks from both one-on-one evaluators and peers were useful. After the peers and one-on-one reviews, the module was revised for small group session.

Procedure

During the Spring 2011 semester, the solicited participants received the website link via e-mail along with all the required information. The participants were asked to complete the survey within a two-week period. Once all the participants completed the survey, data was collected in Google forms. The data was entered in a spreadsheet and analyzed.

Results

The data were collected from twelve UH graduate and undergraduate students. All twelve participants responded to the demographic, pre-test, post-test and evaluation survey online.

Demographic data

The demographic survey provided the background information about the participants and their basic understanding about online piracy and plagiarism. The participants were eight male and four female students. The education background and level of the participants varied substantially. As many as 50% of the participants were students in PhD programs, 33% were in masters programs, and 17% were seeking bachelor's degrees. Participants were asked about their use of computers in education. All twelve UH students responded that they use computers for education on average three to four hours a day. Out of twelve, eleven already had knowledge of online piracy and plagiarism and used reference books to cite their schoolwork. Regarding the use of reference styles, 50% of the participants were found to use the APA reference style, whereas 25% use multiple reference styles, 17% use MLA and 8% said they were not aware of any reference style.
Tests data

The data was collected from twelve participants. All the participants completed the pre-test and post-test online which had twelve multiple-choice questions. Table 1 shows the result of the pre-test and post-test. In the pre-test, only 17% of the participants answered test item 12 correctly; question 12 asked for the definition of online piracy and plagiarism. Forty-two percent of participants were able to answer correctly on test items 6 and 10, which asked about the definition of plagiarism and use of software respectively. On the pre-test, participants scored high (92%) on test items 1 and 11 and perfectly (100%) on test items 3, 5, 7 and 8.

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There is an average 22% improvement in participants’ scores in the post-test compared to pre-test. All twelve participates answered test items one to eleven correctly. And though only 67% of the participants answered post-test item 12 correctly, that item showed the second highest change from pre- to post-test of 50%.

Pre and Post Test Results

Figure 1 presented above is the line bars graph which shows the comparison of pre-test and post-test data. Note that there were gains in each question item except for those
where all participants answered the question item correctly both in the pre-test and post-test.

Survey data

The evaluation survey had Likert-scale and open-ended questions, which enabled the participants to provide feedback on the instructional module. There were 14 Likert-scale survey items and four open-ended questions. The survey included questions about the content, layout of the module and tests. The open-ended questions that were asked on the module were:

- What did you like about the module?
- What part of the module needs improvement?
- Do you have any suggestions for improvements?
- Any additional comments?

Overall responses were positive and the participants found the module and information provided to be useful. However, two participants believed that the amount of information provided in the module was not sufficient. More than 40% of the participants liked the visual content that were provided in the module. One participant thought that awareness about online piracy and plagiarism should be developed from a younger age, not at the college level. For suggestions and improvements, one participant suggested that more details be added in the instructions regarding the navigation of the module pages. On the other hand, one of the participants wanted to know more about what would be the outcome and consequences if one got caught committing online piracy and plagiarism and what are the chances of getting caught.

Discussion

From the demographic and pre-test data, it seemed that participants were aware and also had good understanding of online piracy and plagiarism prior to exposure to this module. The high score in the pre-test items 3, 5, 7 and 8 could be a reflection of the education level of the participants, that 75% of the participants were pursuing masters and PhD degrees and had already learned about online piracy and plagiarism. Similarly, 92% of participants self reported in the demographic survey that they were familiar and had prior knowledge about online piracy and plagiarism. The previous knowledge about online piracy and plagiarism may be responsible for the participants being able to answer all the questions in test items 3, 5, 7 and 8. However, there was a low score in two of the pre-test items 6 and 10. The low score in test item 6 could be due to the issue stated by Knight et al. (2004) and Wilkinson (2009) that copyright infringement can happen due to lack of knowledge and ignorance. Most of the participants who scored incorrect on test item 10 might have lacked knowledge about sharing copyright products. Similarly, one participant chose the answer that downloading from P2P file sharing is fine. The reason behind their thought could be that they believed committing copyright infringement to avoid paying for the resources they use was acceptable (Snow, 2006). In the terminal objective, test item 12, participants only scored 17% in pre-test, compared to 67% in
post-test because of the difficulty level. By comparing pre-test and post-test, there was substantial increase in post-test scores. In post-test out of twelve test items, eleven were 100% correct. This substantive increase in scores on post-test vis-à-vis pre-test shows that the module had contributed to their building their understanding and knowledge.

The evaluation survey result shows that most of the participants were satisfied with the module design, examples and visual design. One of the participants wanted to know beyond the scope of the module, what the consequences are if a person is caught committing online piracy and plagiarism and what the chances of being caught was. However, one of the lessons had some information that if someone got caught committing online piracy and plagiarism, the person would be sentenced to prison, fined or both, so it is possible that the placement of this information was not prominent enough. The module may be improved by adding more information regarding online piracy and plagiarism, legal issues and outcomes of such wrongdoing.

**Conclusion**

The main objective of the module was to provide information and increase awareness of online piracy and plagiarism. In this project twelve undergraduate and graduate students from the University of Hawai‘i participated to test the module. For this study an instructional module was designed to create awareness on analyzing and providing appropriate ways to avoid online piracy and plagiarism, and give due credit to authors or producers of the products the learners use. A comparison between the pre-test and post-test revealed that the participants benefitted from the module in most areas. It can be concluded that the module is effective in realizing its purpose of providing information and increase awareness of online piracy and plagiarism. This study was conducted with a small group of student participants of one particular university. However, the results may be applicable to students of other similar institutions. As mention earlier, with the increasing use of computer and the Internet in today’s education system, this kind of module can be developed and tested on K-12 students by which students can learn to respect other’s intellectual property at an early age. Learning about online piracy and plagiarism benefits all participants whether students are from elementary school or at the university level. The created module can benefit any participant who is interested to learn about online piracy and plagiarism.
References


Appendix

Appendix 1. Screenshot of tabs and random ID generator