LEARNERS' PREFERENCES IN USING ONLINE LEARNING RESOURCES

Sha Li,
Alabama A&M University

Amy Leh,
California State University San Bernardino

Yujian Fu and Xiang Zhao
Alabama A&M University

This article describes an action research in a graduate educational technology class. The study employed the Online Top-Down Modeling Model (Li & Liu, 2005) as a case in which the students used the learning resources from the course website to perform various learning activities. The findings of this research identify the students' eight preferences in using online learning resources. This could help understand the learners' needs and perspective in an Internet-based learning environment so as to design and integrate effective virtual resources for learners.

INTRODUCTION

Internet-based learning resources are playing an important role in the learning process. Teachers are trying to design effective resource-based online learning environments to enhance learners' academic development (Armatas, Holt, & Rice, 2003; Hill & Hannafin, 2001). The project-based learning under a resource-assisted learning environment could cultivate the learners' hands-on skills as well as their thinking skills such as problem solving, reasoning, and critical thinking through information handling and creative experiential work (Resnick, 1987; Todd & McNicholas, 1995). However, the digital learning environment is a multidimensional setting. To understand how our students learn in a preferred manner is beneficial to improving our instructional design (Peluchette & Rust, 2005; Shindler, n.d.).

Li and his colleagues created an Internet resource-based learning model, the Online Top-Down Modeling Model (OTDMM) (Li & Liu, 2005), to help enhance the learning effectiveness through the learner-resource interaction (Moore, 1989). With the OTDMM, effective learning occurred, and the students'

• **Sha Li,** Associate Professor, Educational Technology, School of Education, Alabama A&M University, P.O. Box 937, Normal, AL35762. E-mail: sha.li@aamu.edu

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motivation and positive attitude toward the use of online learning resources increased. This is a follow up study after that model. This study tries to explore deeper into the learners' world under the OTDMM, trying to have an understanding of the learners' preferences and related perspectives, and to add to the literature on the effective design of online learning resources.

METHODOLOGY

The purpose of this study is to understand the learners' preference and preference-related perspectives in the OTDMM environment. The FED 529 Computer-Based Instructional Technology class is a graduate computer literacy course. It has a resource rich course web site, on which are project models, FAQ tutorials, supporting resources, etc. as a powerful enhancement for learners. The FED 529 course was used as a case in this study. Sixty-five students from four classes of the FED 529 course and the instructor participated in this study. The data collection covered the fall semester of 2007 and the spring semester of 2008. We present both quantitative data and qualitative data by each preference to make it easier to understand.

DATA ANALYSIS

There are eight preferences found in the student use of the online learning resources:

1. Preferring Using Resources from the Course Web Site vs. Those From Other Web Sites

The students showed the highest preference for using more online learning resources from the course web site (43.1%); the next is the preference for using online learning resources from both the course web site and other web sites equally well (40.0%), 12.3% of the students chose to use resources from web sites other than the course web site; the rest of the students are those who either chose to use the course web site resources only (1.5%) or chose to use other web site resources only (3.1%). The correlation between the skill level and the preference for using resources from the course web site versus from other web sites is not significant ($r = -.053$, $p > .05$). The students' verbal responses about the major benefits of using the course web site resources is that they are more convenient, and more focused on class tasks, while the other web sites are not so focused on the class content but are a good supplement to the course online resources.

2. Preferring Using Online Learning Resources vs. Printout Resources

The students' preference for the access to both online learning resources and printout resources was the highest (52.5%). The next was using online learning resources only (46.0%). The preference for using printout resources only was 1.5%. The students indicated that they prefer using the online learning resources because the multimedia features are "live" online and accessible any time and anywhere. The advantage of the printout resources is that they are "easy to read" and a hardcopy is a "physically safe" copy in hand.

3. Preferring Using the Online Syllabus Versus the Printout Syllabus

We asked about this issue in two questions. In Question I, if there are only two options: the syllabus online and the syllabus in printout, 61.5% of the students prefer the syllabus online and 38.5% prefer it in printout. In Question II, if there are three options: the syllabus online, the syllabus in printout, and the syllabus in both online and printout formats, 60.9% of the students prefer syllabus in both formats, 22.0% prefer syllabus online only, and 4.7% prefer the syllabus in printout only. The students indicated that the advantages of the online syllabus is convenient access, ease of use when traveling, and security from loss.

The students who like the syllabus in both online format and printout format state that having access to both formats of the syllabus is more beneficial and flexible than having one format only.

4. Preferring Online Project Models Versus Printout Project Models

Slightly more than half (53.8%) of the students prefer project models online; 46.2% of the students prefer both formats; and 0% of the students prefer project models in printout only. The correlation between the student skill level and their model format preference is not significant (r = -.163, p > .05). The major reason for this is also that the major multimedia features are available in online project models instead of in printout project models, such as video, sound, animation, and the program design paths, such as the animation path, and the HTML code. The computer projects the students learn to do are mainly multimedia based. Only when they are able to demonstrate their full features to the students, can the students grasp the full function and knowledge of the intended programs, such as the projects of PowerPoint, web page design, graphics design, video editing, and animation design.

5. Preferring Text FAQ Versus Video FAQ

The FAQs are actually the tutorials on the course web site. Just over half (55.4%) of the students prefer using both text and video formats of FAQs equally well, 24.6% of the students prefer using more of the video FAQs, and 20.0% of the students prefer using more of the text FAQs. The correlation between the student preferences and their skill levels is not significant (r = -.047, p > .05). The high technology level students reported that they can view text FAQs to learn a new project faster than viewing a video FAQ. They read the text tutorial selectively at a fast pace to grab the unfamiliar parts with their strong previous technology background. Students at low technology level reported that they often have a hard time understanding the technical terminology in the text FAQs. The video FAQ, which is recorded with the screen capture software, teaches them visually as what is shown on the screen; it is easier for them to follow. And they can also interact with the video player to learn at their own pace. However, we found that when using FAQ to learn a new project with which neither the high technology level students and the lower technology level students have no previous experience, 100% of the students of both levels preferred using more of the video FAQs than the text FAQs. The reason the students gave is "We haven't seen it before."

6. Preferring Viewing Both High Quality Models Versus Lower Quality Models

The students' preference for the quality of the online project models varies; 60.0% of the students preferring viewing both high quality and lower quality project models, while 38.5% of the students like to view the model projects of high quality only. Only 1.5% of them prefer viewing the models of lower quality only. The correlation between the students' skill level and the model quality preference is not significant (r =.029, p > .05). The students indicated that the high quality projects models were motivating to see and helped them set self-expectation at a higher level to solicit higher outcome, while the lower quality project models could help the students, of both the high technology level and the lower technology level, start understanding from an easy level to a complicated higher level as a transition if needed. So both high quality and lower quality project models are beneficial to most of the students.

7. The Sequence of the Online Model Presentation

Learning activity is a sequential process (Bennett, 1999). It is beneficial to know which sequence is better for students to learn when

the teacher presents the online models to the students. Just over three-quarters (76.9%) of the students prefer viewing project models first and learning the new program features/tools second, while 20% of the students prefer viewing the program features/tools first and viewing the models second. This verifies that the learning sequence of the OTDMM fits the majority of the learners' sequence preference, which asserts providing the students with project models first and then engage learners in specific learning activities. The students' verbal responses indicate that if the teaching sequence conforms with the learner's sequence preference, it would be more motivating, interesting, and easier to understand.

8. Preferring Shared Use of Online Learning Resources

Nearly all (95.4%) of the students prefer shared use of learning resources/information from the Internet. Only 3.1% prefer not sharing online resources/information among peers, and 1.5% of the students prefer getting learning resources/information from other people but don't like to share their own among students. It is observed that in this resource-rich class, most students like to discuss, brainstorm, and share the resources /information they have from Internet to increase the learning effectiveness, such as the resources of unitedstreaming.com, soundcentral.com, thinkfinity.com, the Youtube Downloaders, free online sound editors, and so forth. They reported that the shared use of Internet resource/information could enhance learner-centered learning in a constructive manner and broaden their knowledge and information skills together in a time-effective way.

DISCUSSION AND CONCLUSION

This study has yielded interesting findings regarding the learners' preferences and perspectives in using online learning resources. They are helpful in understanding learners who have different experiences and backgrounds. Some of these aspects we did not realize before. For example, a greater number of the students prefer the online model projects containing both high-quality and lower-quality ones. We thought that only the high-quality projects should be picked as models to put online. They were as good as our expectation and criteria of the learners' outcome. However, the findings tell us that different project models, whether high quality or lower quality, could play a role in modeling the learning process at various levels. The next example could be that even though the high-technology level students prefer using more of the text FAQs, and the lower technology level students prefer using more of the video FAQs, they both prefer using video FAQs to learn if the project taught is totally new to all of them. So we can see that the border of this preference between the high-technology level students and the low-technology level students might be changeable, depending on circumstances.

This study is also a mirror that reflects the advantages in a blended learning environment where both online learning resources and traditional learning resources are available. Now that more and more people are aware of the benefits of providing online learning resources in various ways, discovering ways to boost learning efficiency is necessary and beneficial.

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