Evidence Based Library and Information Practice

Students and Graduates Learn Library Educational Content from Interactive Multimedia Tutorials

A review of:
Markey, Karen, Annie Armstrong, Sandy De Groote, Michael Fosmire, Laura Fuderer, Kelly Garrett, Helen Georgas, Linda Sharp, Cheri Smith, Michael Spaly, and JoniE. Warner. "Testing the Effectiveness of Interactive Multimedia for Library-User Education." portal: Libraries & the Academy 5.4 (Oct. 2005): 527-54.

Reviewed by:
David Herron
Scholarly Developer, Karolinska Institutet, University Library
Stockholm, Sweden
E-mail: david.herron@kib.ki.se

Lotta Haglund
Head of Information and Public Relations, Karolinska Institutet, University Library
Stockholm, Sweden
E-mail: lotta.haglund@kib.ki.se

Abstract

Objective –To demonstrate the effectiveness of interactive multimedia tutorials in delivering library educational content, and to evaluate librarian experiences of developing multimedia tutorials, both as part of the LUMENS (Drabenstott) project.

Design – User study (questionnaire and interviews) using pretest-posttest design.

Setting – Four academic libraries in the United States. One library dropped out during the course of the project.

Subjects – Ninety university students from the University of Illinois Chicago (UIC), Purdue University, and the University of Notre Dame participated in the main study to evaluate three of the tutorials: "Doing research an introduction to the concepts of online searching," "How to read a scientific paper," and "Hungry for information?"

Another group of 15 subjects from UIC, consisting of 10 graduate students, 2 faculty, 2 librarians, and one fellow, assessed a fourth tutorial "Keeping current in your field." Librarians were interviewed about their experiences producing the interactive multimedia tutorials.

Methods – The 90 students were given a pretest containing questions about library educational content and five demographic questions. The students used the multimedia tutorial for 15-30 minutes and immediately afterward were given a posttest containing comparable questions to the pretest in terms of content and difficulty. The students were also asked to rate their experiences of using the tutorials in various ways on a scale from 0-10. At UIC, the experiences of the subjects using the multimedia tutorial were assessed by personal interviews. Librarians producing the multimedia tutorials were asked about their experiences of developing multimedia tutorials through e-mail, listserv discussion, phone calls, and face-to-face personal and group interviews.

Main results – All three libraries measured a significant increase (using a one sample t-test, p<0.001) in marks when comparing the pretest and posttest results. The changes in mean marks were UIC, 7.1 to 9; Purdue, 7.7 to 9.4; and Notre Dame, 6.2 to 9. The results show that the majority (>75%) of students were familiar with tutorial content before start. Despite this, most of the students found the tutorials useful and enjoyable, and the majority were fairly likely to recommend the tutorial to a friend. Interviews with subjects at UIC revealed similar experiences, except that the subjects were less familiar with the tutorial content at the beginning, and they were more likely to return to the tutorial for a refresher. The tutorial with the highest amount of interactivity was the most popular. The librarians found it difficult to find time to

learn Macromedia Flash and to work within the LUMENS project generally. Eight out of 15 librarians remained with the project over the entire period.

Conclusion – Students learned library educational content by using multimedia tutorials and seemed to enjoy the experience, and educational librarians should lead multi-expert project teams in tutorial production. Finally, the educational value of multimedia tutorials must be offset from the time and effort needed to produce them.

Commentary

The article presents some interesting educational and managerial results which should be of use to the library community. Educationally, the article demonstrates that both undergraduates and graduates found the interactive multimedia tutorials useful and that both groups could improve their information literacy by using tutorials. In a recent systematic review, Brettle showed that the evidence base for the effectiveness of library training is weak. This study provides additional positive evidence that training can be effective in the form of interactive multimedia tutorials. From the management point of view, the article indicates that multi-professional teams would be more effective in tutorial production.

The educational discussion is truncated by the omission of the expected learning outcomes for the tutorials and the library content questions; these could have been added in an addendum. This is not helped by the virtual lack of references in the article to other published studies. The high score on the pretests also raises some doubt about the intellectual challenge of the tutorials.

The total numbers of students at the participating universities are not included and therefore it is unclear how

representative the samples of 30 subjects are. Although the LUMENS project was carried out between October 2001 and September 2003, it is unclear in this article exactly when these studies were conducted. The authors use a one sample t-test, which is a parametric test assuming normality. Whether or not the authors checked for normality is unclear. Clarity would also be improved if the specific statistical tests used to test for differences in the demographic variables were given in the text.

The results could be presented in fewer figures and tables, and the authors could be somewhat more consistent with their use of units in the text. Author use of a scale from 0-10 leads to some confusion in the figures since the first category contains three grades while the others contain two. Clarity might also be improved if the figure axes had been labeled.

The subjects seemed very positive about the "Keeping Current" tutorial. However, one wonders if they were also biased by payment to take part in the interviews. It would improve our understanding of the representativeness of the UIC sample if the selection criteria for the 15 participants in this part of the study were more clearly stated.

Although four libraries began the project, one library (Earlham College Library) dropped out for a number of reasons: the time-consuming nature of the project, the amount of work involved, other work commitments, changing work assignments, and ample opportunities to deliver content through "live instruction" (which decreased motivation). This provides important management information for libraries interested in launching similar projects, especially since the others libraries had similar concerns in the final evaluation of the project. This result underlines the need for management to make realistic

predictions concerning time, human resources, and (presumably) costs before embarking on multimedia productions.

Finally, the studies are fairly valid and reliable (but not replicable in the present form of the article) and they provide reasonable evidence to support the practice of educational librarians, multimedia experts, and library managers in a university library setting.

Works Cited

Drabenstott, Karen Markey. "Interactive Multimedia for Library-User Education." portal: Libraries and the Academy 3.4 (2003): 601-13

Brettle, Alison. "Information Skills Training: A Systematic Review of the Literature." Health Information & Libraries Journal 20.S1 (Jun. 2003): 3-9.