Evidence Based Library and Information Practice

Evidence Summary

Public Library Training Program for Older Adults Addresses Their Computer and Health Literacy Needs

A Review of:
Xie, B. (2011). Improving older adults' e-health literacy through computer training using NIH online resources. *Library & Information Science Research*, *34*, 63-71. doi: /10.1016/j.lisr.2011.07.006

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Abstract

Objective – To evaluate the efficacy of an e-health literacy educational intervention aimed at older adults.

Design – Pre and post intervention questionnaires administered in an experimental study.

Setting – Two public library branches in Maryland.

Subjects – 218 adults between 60 and 89 years of age.

Methods – A convenience sample of older adults was recruited to participate in a four week training program structured around the National Institutes of Health toolkit *Helping Older Adults Search for Health Information Online*. During the program, classes met at the participating libraries twice a week. Sessions were two hours in length, and employed hands on exercises led by Master of Library Science students. The training included an introduction to the Internet, as well as in depth training in the use of the NIHSeniorHealth and MedlinePlus websites. In the first class, participants were asked to complete a pre-training questionnaire that included questions relating to demographics and previous computer and Internet experience, as well as measures from the Computer Anxiety Scale and two subscales of the Attitudes toward Computers Questionnaire. Participants between September 2008 and June 2009 also completed pre-training computer and web

knowledge tests that asked individuals to label the parts of a computer and of a website using a provided list of terms. At the end of the program, participants were asked to complete post-training questionnaires that included the previously employed questions from the Computer Anxiety Scale and Attitudes towards Computer Questionnaire. New questions were added relating to the participants' satisfaction with the training, its impact on their health decision making, their perceptions of public libraries, and the perceived usability and utility of the two websites highlighted during the training program. Those who completed pre-training knowledge tests were also asked to complete the same exercises at the end of the program.

Main Results – Participants showed significant decreases in their levels of computer anxiety, and significant increases in their interest in computers at the end of the program ($p>0.01$). Computer and web knowledge also increased among those completing the knowledge tests. Most participants (78%) indicated that something they had learned in the program impacted their health decision making, and just over half of respondents (55%) changed how they took medication as a result of the program. Participants were also very satisfied with the program's delivery and format, with 97% indicating that they had learned a lot from the course. Most (68%) participants said that they wished the class had been longer, and there was full support for similar programming to be offered at public libraries. Participants also reported that they found the NIHSeniorHealth website more useful, but not significantly more usable, than MedlinePlus.

Conclusion – The intervention as designed successfully addressed issues of computer and health literacy with older adult participants. By using existing resources, such as public library computer facilities and curricula developed by the National Institutes of Health, the intervention also provides a model that could be easily replicated in other locations without the need for significant financial resources.

Commentary

This work is part of larger study entitled "Electronic Health Information for Lifelong Learners," and preliminary results were published in same journal in 2009. In this article, the researcher makes a strong case for greater involvement of the library and information community in addressing issues of health and e-health literacy.

While the stated overall objective is to look at the effectiveness of the intervention studied in addressing e-health literacy among older adults, many of the measures employed focus exclusively on computer literacy skills or the usability of particular websites that focus on health information, with a small number of subjective questions relating to participants' use of health information in their own lives. E-health literacy is defined by Norman and Skinner (2006) as "the ability to seek, find, understand, and appraise health information from electronic sources and apply the knowledge gained to addressing or solving a health problem" (The Lily Model) (¶Abstract Section). It is apparent from this definition that e-health literacy is too multifaceted to be addressed by a single intervention, even one that spans eight classes. While the researcher is very clear about which aspects of this concept she seeks to address with her study design, it is hoped that more emphasis in future research will be placed on investigating the impact of training on the understanding, appraisal, and application of health information by older adults. In the study, the module relating to appraising health information was only presented to classes who finished the other eight modules earlier than expected. It is not clear if this module was sacrificed in the interests of time, but it could be argued such a skill has a longer potential shelf life than a particular resource.

An evaluation of the study using the EBLIP Critical Appraisal Checklist (Glynn, 2006) highlighted a few areas where the reporting of results could be improved. One, providing the number of responses received for questions relating to participant satisfaction with the training, use of information in decision

making, and views of public libraries would help place the percentages presented into context. A very small number of individuals completed both the pre and post knowledge tests (20 for computer skills, 15 for web skills), limiting the utility of the data collected through the sole objective measure employed in the study. This should be highlighted, although the researcher acknowledges the study would be strengthened with the inclusion of more objective measures of search skills. More information on the course drop-outs mentioned briefly by the researcher would also provide a more inclusive portrait of the population under study. The inclusion of the questionnaires and knowledge tests as appendices would have been useful for future researchers hoping to replicate the study design.

Xie acknowledges a number of the study's limitations. A convenience sample was employed, which significantly impacts the external validity of the study. Having 13 different instructors deliver the workshop also likely impacted participant responses. What is not fully explained was the decision to recruit from library branches that serve large number of patrons from ethnic minority groups. Xie briefly suggests a particular need among minority populations for health literacy interventions, but the literature review focuses on older adults as a whole and the study results are not parsed by the ethnic background of participants. Further research on this issue may be needed.

The study's value to the library community lies in several areas. It outlines a successful training program that uses existing infrastructure and materials to deliver computer literacy instruction that also serves to address some health literacy needs. From its use of existing learning materials to the recruitment of instructors from the nearby library school, it is clear that the sustainability and transferability of the program to other locations was considered. The intentionality of the course design and its use of literature on learning theory and pedagogy is also a good model for others to follow in future.

References

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