THE EFFICACY OF KNOWLEDGE MAP IN OBJECT-ORIENTED SOFTWARE TRAINING: ADO.NET COMPONENTS

Charlie C. CHEN¹, Ruey-Shiang SHAW², Michael B. KNIGHT³

¹Department of Computer Information Systems, Appalachian State University, Boone, North Carolina 28608, United States of America, chench@appstate.edu
²Department of Information Management, Tamkang University, No. 151, Yingzhuan Rd., Danshui Town, Taipei County 25137, Taiwan, rsshaw@mail.tku.edu.tw
³University of Wisconsin - Green Bay, 2420 Nicolet Drive, Green Bay, United States of America, knightm@uwgb.edu

Abstract
An experimental study examined effects of knowledge map-based learning, a form of computer assisted instruction (CAI), on assisting novice users in acquiring software knowledge and skills. Fifty five subjects participated in this experimental study. Two classes of students in a webpage development course were randomly chosen to receive different treatments. Twenty four students received the knowledge map-based training, while thirty one students received the traditional face-to-face training. Target software acquired by students in this study is ASP.NET. This study focuses on the data-access component ADO.NET (ActiveX Data Objects) of this target software. ADO.NET is a database access component and allows users to interact with database systems from browsers. A pre-test and post-test was administered to assess the effect of knowledge map-based learning on learning outcomes, with the traditional F2F training group as a controllable group. Results showed that students who receive the knowledge map-based training slightly outperformed those students who receive the traditional face-to-face training. Statistical evidences show that both training approaches are effective to help students acquire object-oriented software, such as ADO.NET, based on the mean scores of pre- and post-tests. Recommendations were made to instructor and practitioners to improve the efficacy of knowledge map-based training.

Keywords: Knowledge Map, Knowledge Objects, Learning, Computer Assisted Learning, Information Retrieval

REFERENCES


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