Increasing Student Performance Through the Use of Web Services in Introductory Programming Classrooms: Results from a Series of Quasi-Experiments

Bryan Hosack  
Billy Lim  
W. Paul Vogt  
Illinois State University  
Campus Box 5150  
Normal, IL 61790  
bhosack@ilstu.edu, bllim@ilstu.edu, wpvogt@ilstu.edu

ABSTRACT

An introduction to programming course can be a challenge for both students and instructors. This paper describes a study that introduced Web services (WS) and Service-Oriented Architecture in Information Systems 1 (IS 1) and Computer Science 1 (CS 1) programming courses over a two-year period. WS were used as an instruction tool based on their increased use in industry as well as their ability to provide a real world feel to student programming activities. The paper includes an example WS teaching module and a proposed implementation model for future studies based on lessons learned from the current experiment. The study was successful in showing a significant increase in student test performance for WS-taught courses over standard-taught courses.

Keywords: Programming, Student performance, Web literacy.