PROGRAMMING SELF-EFFICACY PREDICTORS IN STUDENTS OF COMPUTER APPLICATIONS

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ABSTRACT

Programming is one of the most basic and important skills a student of Computer Science needs to acquire to attain a degree in a Computer Applications or Computer Engineering Course. However as the abstract nature of programming requires cognitive skills and a deep understanding rather that just surface memorization most students perceive programming as a difficult subject to grasp and develop a low self-efficacy for it. Given the huge demand for highly skilled programmers the world over and with research having found a strong correlation between students programming self-efficacy and their performance in a programming course, it is vital to understand the influencing factors of self-efficacy in programming. This study aims to find the predictive value of intrinsic factors (Previous academic course, mathematics background, gender, number of programming languages known and amount of programming experience) on the C/C++ programming self-efficacy in students of Computer Applications. A well known and reliable self efficacy scale (CPSES) developed by Ramalingam and Wiedenback (1998) and adapted by Korkmaz and Altun (2014), was utilized to measure the self-efficacy of the students.

Keywords: self-efficacy; programming; C/C++; Computer Applications

1. Introduction

Learning to program is a complex technique requiring various cognitive abilities like abstract thinking and problem decoding skills. In addition to this complex learning process though students may have basic computer knowledge they are unfamiliar with