STUDENT SUCCESS MODEL IN PROGRAMMING COURSE: A CASE STUDY IN UUM

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Abstrak


Keywords: Pengaturcaraan berasaskan objek, Java, kesukaran pengaturcaraan, pembelajaran, faktor
Abstract

The complexity and difficulty ascribed to computer programming has been asserted to be the causes of its high rate of failure record and attrition. It is opined that programming either to novice, middle learner, and the self-branded geeks is always a course to be apprehensive of different studies with varying findings. Studies on factors leading to the success of programming course in higher institution have been carried out. The record at Universiti Utara Malaysia (UUM) shows that 38% of semester one undergraduate students failed the programming course in 2013. This really motivates this study, which aims at investigating the practical factors affecting the success of programming courses, and to position its’ theoretically findings to complement the existing findings. Data were gathered using a quantitative approach, in which a set of questionnaire were distributed to 282 sampled respondents, who are undergraduate and postgraduate students of Information Technology (IT) and Information and Communication Technology (ICT). Having screened and cleaned the data, which led to the deletion of four outlier records, independent T-test, correlation, and regression were run to test the hypotheses. The results of Pearson correlation test reveal that teaching tools, OOP concepts, motivation, course evaluation, and mathematical aptitude are positively related to academic success in programming course, while fear is found to be negatively related. In addition, the regression analysis explains that all the elicited independent variables except fear are strongly related. Besides, the independent T-test also discovers no deference between groups with and without previous programming experience.

Keywords: Object Oriented Programming, Java, programming difficulties, learning, Factors
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CHAPTER ONE
INTRODUCTION

1.0 Background of the Study

Modern curriculum needs to emphasize the development of programming skills for citizens of a technological society (Pejcinovic, Holtzman, Chrzanowska, & Jeske, 2013). Programming is a cognitive activity that requires abstract representations and logical expressions. The program must translate abstract representations into correct codes by using a formal language to create, modify, reuse, or debug a program (Wiedenbeck, 2005). Furthermore, programming is often viewed as a problem-solving activity rather than a linguistic activity, often ignoring the fact that programming languages are a case of formal languages. The interpretation of formal languages is unique for every individual.

Programming skills are an essential part of computer science (CS) and information technology (IT) courses (Raina Mason, Cooper, & Raadt, 2012). Robins, Rountree, and Rountree (2003a) argue that programming skills are useful in programming knowledge and strategies, such as program generation and comprehension. Programming can also lead to a rewarding career, such as an analyzer, programmer, or debugger.

Zdancewic and Weirich (2013) state that programming is a conceptual foundation in the study of computations. Programming is a prerequisite for almost every other course in CS. Renumol, Jayaprakash, and Janakiram (2009) said that “programming is the process of writing, testing and debugging of computer programs using different programming languages.” However, according to
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REFERENCES


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