

Factors That Influence Students' Programming Skills: A Case Study from a Nigerian University

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Abstract

Most university students do not write programming codes, because writing programming codes involves hard work, dedication, interest, self-motivation, perseverance, and access to the appropriate resources (i.e. textbook, hardware, and software). To address this issue, we conducted research using the Unified Theory of Acceptance and Use of Technology (UTAUT) as the theoretical background for our research model as shown in Figure 1. The results from our structural equation modeling show that students write and use programming codes if they have a positive perceived behavioral intention to write programming codes. Furthermore, our results show that behavioral intention to program is predicted by factors such as performance expectancy, self-efficacy, anxiety, and habit, which explains why most software companies are using these factors effectively and efficiently to develop software. Our study has a variety of practical and research implications relating to syllabi, course, and curricula developments in the computer science discipline.

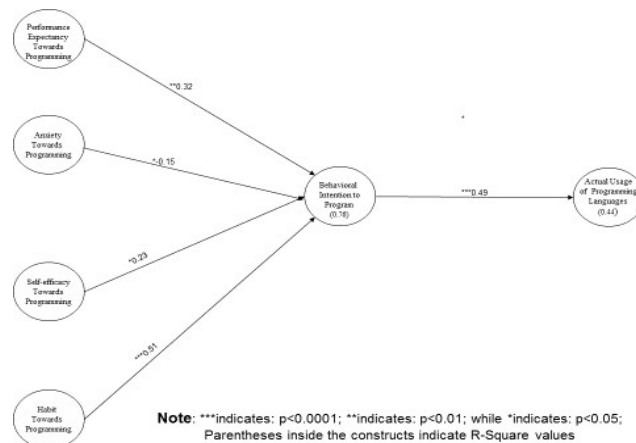


Figure 1. SEM Analysis with Path Coefficient and R-square

Finally, we tested the five hypotheses in our study to investigate the critical factors that influence the actual usage of programming languages. We present and discuss the strengths and significance of each path's findings and other practical and research implications. There is no doubt that programming codes and software have changed the way we live, and that they have affected all daily life relating to communication, social media, ecommerce, education, research, etc.