

## Novice Programmer's Performances in Computer Programming of College of Information and Communication Technology for Sustainable Education: A Meta Analysis

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### Abstract

The study focused on analyzing novice programmers' performances in computer programming course of the College of Information and Communication Technology of University of Batangas, Batangas City, for sustainable education. It aimed to assess the students' successes in computer programming in various instructional approaches such as lecture, demonstration and hands-on. Further, the study explored differences in the pre-test and post-test of students who were taught computer programming using Java. Employing the quantitative method and correlational analysis, the researchers used the phenomenological design of quantitative data to provide data collection and analysis. Experimental research was utilized to test the College of Information and Communication Technology students' successes in learning computer programming using Java programming language in lecture, practical and hands-on. A comprehensive questionnaire assessing the success of pedagogical approaches was distributed among various stakeholders, including experts, faculty members, and students, totaling 146 respondents. The responses were quantitatively analyzed using statistical techniques such as weighted mean, correlation, and ANCOVA. The study revealed that the College of Information and Communication Technology of the University of Batangas, Batangas City, demonstrates an exemplary approach to the success of students in computer programming in lecture, demonstration, and hands-on approach. These successes significantly contributed to the effective teaching and learning processes. Regular evaluations showed a consistent standard in computer programming instruction in midterms and finals. Faculty members and students perceived successes in teaching and learning. However, recommendations of faculty members teaching Java programming to students include regular programming practice and collaborative learning. No significant difference in the average pre-test and post-test results of students taught computer programming using Java through lectures, demonstrations, and hands-on.

*Keywords: Sustainable Quality Education, Students' Success in Computer Programming, Quantitative Method and Correlational Analysis, Lecture, Demonstration and Hands-On Approaches, University of Batangas, Philippines*