

ENHANCING COMPUTER EDUCATION FOR SUSTAINABLE INNOVATION IN HIGHER EDUCATION IN ANAMBRA STATE, NIGERIA

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Abstract

Computer education in higher education fosters sustainable innovation by equipping students with digital skills for problem-solving, creativity, and technological advancement. The research focuses on evaluating the effectiveness of curriculum redesign, incorporating emerging technologies like Artificial Intelligence (AI) and Data Science, and fostering practical skills essential for innovation. This study adopted a descriptive survey research design. The population for the study comprised students, lecturers, and administrative staff from higher education institutions in Anambra State. A total sample size of 130 participants was selected using stratified random sampling to ensure representation from all key groups. To gather data, a structured questionnaire was used. Inferential analysis, specifically ANOVA, was conducted to identify and evaluate differences in perceptions among various demographic groups. In the post hoc multiple comparisons, the Scheffe and Tamhane tests were applied to evaluate significant differences between age groups regarding their perceptions. Findings indicate that the redesign of computer education curricula significantly impacts students' innovation capacity, with varying effects across different age groups. The study highlights the need for curriculum integration of hands-on, project-based learning, industry collaborations, and reliable technological infrastructure to foster an innovation-driven educational environment. The results suggest that a more inclusive and forward-thinking approach to computer education can greatly enhance sustainable innovation in Anambra's higher education institutions. Based on these findings, recommendations for curriculum reforms and educational policies are presented to better align computer education with the evolving demands of the digital economy.

Keywords: computer education, sustainable innovation, higher education, curriculum redesign, emerging technologies

Introduction

As technology evolves, so too must the ways in which computer education is imparted in higher education settings. To foster sustainable innovation, educational institutions are increasingly focusing on the integration of computer science and technological advancements into curricula that not only meet the needs of current students but also prepare them for future challenges. A critical factor in driving sustainable innovation through computer education is curriculum reform. According to Raj et al, (2020), the traditional computer science curriculum is often too rigid and slow to adapt to fast-paced technological advancements. To address this, many scholars have suggested a dynamic curriculum model that allows flexibility in course offerings, integrating emerging