

Effects Of Two Modes of Blended Learning Strategies on Students Self-Efficacy and Achivement in The Concept of Nervous System

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Abstract

This study investigated the effects of two modes of blended learning strategies on students' self-efficacy and achievement in nervous system in South Eastern Federal Universities, Nigeria. Four research questions guided the study and six null hypotheses tested at 0.05 level of significance. The study adopted quasi-experimental research design. The population of the study comprised 304 first year Biology Education students (Pre-service teachers) in 2021/2022 academic session. Sample size was 182 drawn through simple random sampling of intact classes. Nervous System Achievement Test (NSAT) and Nervous System Self Efficacy Rating scale (NSSERS) were the two instruments for data collection. A reliability coefficient of 0.78 was obtained for NSAT using K-R₂₀ and 0.91 for NSSERS using Cronbach Alpha. The students were assigned into two experimental groups of flipped classroom and flipped-jigsaw II. The research questions were answered using mean and standard deviation while the hypotheses were tested using ANCOVA at 0.05 level of significance. The results of the study show that there is no significant difference in the mean self-efficacy scores and achievement of students taught nervous system using the flipped classroom and flipped-jigsaw II. The findings also show that there is no significant influence of gender on students' self-efficacy and achievement in nervous system. The interaction effect of teaching strategies and gender on the mean self-efficacy and achievement scores of Biology students in nervous system is not significant. The study concluded that both blended learning strategies are potent in improving students' self-efficacy and achievement in nervous system. It was recommended among others that lecturers and teachers should adopt the Flipped classroom and Flipped-Jigsaw II in the teaching and learning of nervous system and other abstract concepts in Biology.

Key words: Biology; Self-efficacy; Achievement; Blended learning