

Inclusive Educational Technology for Students in Rural Areas in Nigeria: Experimenting Micro-Learning and Gamification in Basic Technology Classes

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Abstract : Nigeria has some deep rural environments that seem secluded from most of the technological amenities for convenient living and learning. Most schools in such environments are yet to be captured in the educational applications of technological facilities. The study explores the facilitation of basic technology instructions with micro-learning and gamification among students in rural Junior Secondary Schools in the Ipokia Local Government Area (LGA) of Ogun state. The study employed a quasi-experimental design, specifically the pre-test and post-test control group design. The study population comprised all Junior Secondary School students in the LGA. Four Junior Secondary Schools in the LGA were randomly selected for the study and classified into two experimental and two control groups. A total sample of 156 students participated in the study. Basic Technology Achievement Test and Junior School Students' Attitudinal Scale were instruments used for data collection in the study with reliability coefficients of 0.87 and 0.83, respectively. Five hypotheses guided the study and were tested using Analysis of covariance (ANCOVA) at a 0.05 level of significance. Findings from the study established significant marginal differences in students' academic performance ($F = 644.301$; $p = .000$), learning retention ($F = 583.335$; $p = .000$), and attitude towards learning basic technology ($F = 491.226$; $p = .000$) between the two groups in favour of the experimental group exposed to micro-learning and gamification. As a recommendation, adequate provisions for inclusive educational practices with technological applications should be ensured for all children irrespective of location within the country, especially to encourage effective learning in rural schools.

Keywords : inclusive education, educational technology, basic technology students, rural areas in Nigeria, micro-learning, gamification

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