World Academy of Science, Engineering and Technology
International Journal of Industrial and Manufacturing Engineering
Vol:17, No:11, 2023

Application of Digital Technologies as Tools for Transformative Agricultural Science Instructional Delivery in Secondary Schools

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Abstract : Agriculture is taught in secondary schools to develop skills in students which will empower them to contribute to national economic development. Unfortunately, our educational system emphasizes the application of conventional teaching methods in delivering instructions, which fails to produce students competent enough to carry out agricultural production. This study was therefore aimed at examining the application of digital technologies as tools for transformative instructional delivery. Four specific purposes, research questions and hypotheses guided the study. The study adopted a descriptive survey research design where 80 subjects representing 64 teachers of agriculture and 16 principals in the Udenu local government area of Enugu State, Nigeria, participated in the study. A structured questionnaire was used to collect data. The assumption of normality was ascertained by subjecting the data collected to a normality test. Data collected were later subjected to mean, Pearson product-moment correlation, ANOVA and t-test to answer the research questions and test the hypotheses at a 5% significant level. The result shows that the application of digital technologies helps to reduce learners' boredom (3.52□.75), improves learners' performance (3.63□.51), and is used as a visual aid for learners (3.56□.61), among others. There was a positive, strong and significant relationship between the application of digital technologies and effective instructional delivery (+.895, p=.001<.05, F=17.73), competency of teachers to the application of digital technologies and effective instructional delivery (+998, p=.001<0.5, F=16263.45), and frequency of the application of digital technologies and effective instructional delivery (+.999, p=.001<.05, F=31436.14). There was no evidence of autocorrelation and multicollinearity in the regression models between the application of digital technologies and effective instructional delivery (2.03, Tolerance=1.00, VIF=1.00), competency of teachers in the application of digital technologies and effective instructional delivery (2.38, Tolerance=1.00, VIF=1.00) and frequency of the application of digital technologies and effective instructional delivery (2.00, Tolerance=1.00, VIF=1.00). Digital technologies should be therefore applied in teaching to facilitate effective instructional delivery in agriculture.

Keywords : agricultural science, digital technologies, instructional delivery, learning
Conference Title : ICTVE 2023 : International Conference on Technical Vocational Education
Conference Location : Tokyo, Japan
Conference Dates : November 13-14, 2023