

Effectiveness of Integrating Science Process-Skills in Teaching Mathematics on Students' Scientific Creativity in Secondary Schools in Tharaka-Nithi County, Kenya

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Abstract

The study sought to investigate the Effectiveness of Integrating Science-Process-Skills (ISPS) in teaching mathematics on students' scientific creativity in secondary schools in Tharaka Nithi County Kenya. The research used quasi experimental design; the Solomon Four –Non-Equivalent Control Group Design. Data was collected from eight schools in Tharaka-Nithi County, Kenya with a sample size of 328 participants. Teachers in experimental groups were inducted on the use of ISPS before embarking on the study while participants in control groups were instructed through conventional approaches. Mathematics Creativity Assessment Test (CAT) and Classroom Creativity Observation Schedule (CCOS) were designed for data collection. Data analysis was accomplished by utilizing means, t-test and analysis of variance (ANOVA). Bonferroni post hoc test was used to show where differences among the groups. Testing of hypotheses was done at $\alpha = 0.05$ level of significance. The study finding indicated that students exposed to ISPS acquired higher meanscores than those not exposed to it in Scientific Creativity. Application of ISPS is more effective in improving students' Creativity than conventional instructional approaches. The study findings give insights on importance of inducting In-Service Teachers on ISPS in instructional approaches to improve their service delivery. From the study it is recommended that Teacher Training Colleges and Universities to incorporate science process skills in instructional methods and materials respectively.

Keywords: Integrating Science-Process Skills, Scientific creativity, Secondary schools and Achievement in mathematics.

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