

GENDER DIFFERENTIATION IN CHEMICAL THERMODYNAMICS ACHIEVEMENT IN SELECTED SECONDARY SCHOOLS IN AKWA IBOM STATE

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ABSTRACT

The study investigated the gender differentiation in chemical thermodynamics using students with different cognitive styles adopting a pre-test, post-test control group design. The instruments for the study were the Cognitive Style Test (CST) for grouping the 320 students into three cognitive style groups and Achievement Test in Chemical Thermodynamics (ATCT) both having estimated reliability coefficients of 0.84 and 0.74 respectively, using the Pearson Product Moment Correlation formula (PPMC). Research questions and hypotheses which guided the study were appropriately stated. Data generated in the study were collated and analyzed using the descriptive and inferential statistic. Two-way Analysis of Covariance (ANCOVA) and student t-test were used for test of hypotheses. Results showed that there was no significant difference in students' academic achievement in chemical thermodynamics when taught with both the guided inquiry and conventional lecture methods, based on their cognitive styles. There was no significant difference in students performance given by their gender. The cognitive style interact with gender to affect students' academic achievement in chemical thermodynamics. Based on these findings, it was recommended that chemistry teachers should adopt guided inquiry method as a pedagogical intervention in teaching chemical thermodynamics in order to enhance improved students' academic achievement in the concept, irrespective of their gender.

KEYWORDS: Gender, Chemical Thermodynamics, Achievement, Guided Inquiry Method (GIM)