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Will defend the Thesis on

Date: April 2, 2024

Time: Noon

Pullman Campus – Cleveland Hall 160A Zoom by request to gradstudies@wsu.edu

Faculty, students and the general public are encouraged to attend

EFFECT OF CONCEPT MAP SCAFFOLDING FORMATS ON STUDENTS' LEARNING OUTCOMES ON MULTIPLE CHEMISTRY TOPICS: A LONGITUDINAL STUDY

Chair: Olusola Adesope

Enhancing conceptual understanding in chemistry through concept mapping technique has been widely covered. However, the dynamic interplay of different concept map scaffold formats on learning effectiveness still needs to be improved, especially in repeated observations. This study investigated the effectiveness of four concept map scaffold interventions across five-time points in a semester to assess the impact of concept map scaffold on students' conceptual understanding with a sample of first-year university students enrolled in introductory chemistry class (N1 = 747- N5 = 531). After controlling for concept mapping prior knowledge through assessment (pre-test) and training in the baseline study, the students were assigned to the concept map scaffolding and comparison groups. We reported missing data analysis and analyzed the dataset using repeated measure ANOVA for group comparison across time and One-Way analysis of covariance (ANCOVA) for individual session analysis. The research findings revealed that concept map scaffolding is significant in fostering concept mapping engagement and conceptual understanding. Specifically, the intervention and comparison groups showed patterns of change in learning between the sessions that relate more to topical demand rather than the effect of the choice of concept map scaffold.