

Effect of Three Instructional Strategies on Pre-service Teachers' Learning Outcomes in Practical Chemistry in Niger State, Nigeria

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Abstract : Chemistry is an activity oriented subject in which many students achievement over the years are not encouraging. Among the reasons found to be responsible for student's poor performance in chemistry are ineffective teaching strategies. This study, therefore, sought to determine the effect of guided inquiry, guided inquiry with demonstration, and demonstration with conventional approach on pre-service teachers' cognitive attainment and practical skills acquisition on stoichiometry and chemical reactions in practical chemistry, Two research questions and hypotheses were each answered and tested respectively. The study was a quasi-experimental research involving 50 students in each of the experimental groups and 50 students in the control group. Out of the five instruments used for the study, three were on stimulus and two on response (Test of Cognitive Attainment and Test of Practical Skills in Chemistry) instruments administered, and dataobtained were analyzed with t-test and Analysis of Variance. Findings revealed, among others, that there was a significant effect of treatments on students' cognitive attainment and on practical skills acquisition. Students exposed to guided inquiry (with/without demonstration) strategies achieved better than those exposed to demonstration with conventional strategy. It is therefore recommended, among others, that Lecturers in Colleges of Education should utilize the guided inquiry strategy for teaching concepts in chemistry.

Keywords : instructional strategy, practical chemistry, learning outcomes, pre-service teachers

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