

Utilization Of Process Oriented Guided Inquiry Learning (POGIL) Towards Achievement In Tertiary Chemistry

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Abstract

This study was conducted to test the veracity of Process Oriented Guided Inquiry Learning (POGIL) on Tertiary Chemistry. Quasi-Experimental Method was employed using the Randomized Pretest-Posttest Control Group Design. The researcher involved two groups of Inorganic Chemistry Lecture classes of The National Teachers College during the Second Semester of Academic Year 2013-2014 which were properly equated by their OLSAT scores and attitude towards chemistry to ensure that the two groups may not provide any threats to internal validity.

The control group was noted as the Non-POGIL group which received the Lecture Based Instruction. On the other hand, the experimental group or the POGIL group was subjected to POGIL instruction. Both groups were given a validated pretest before the experimental period to reveal that student-respondents were at equal footing on the topics which include: Periodic Table of Elements; Chemical Formulas and Bonding and Chemical Reactions and Equations, which were all part of the Midterm Period of the course.

After a month-long experimental period, both groups were given a parallel posttest. The mean, standard deviation and the t-Test were utilized as statistical tools in the study. The SPSS version 16.0 was also utilized as statistical software to compute the data vital for the research. From the results of the statistical treatment employed from the results of the pretest and posttest, it revealed the utilization of POGIL contributed a significant change in the performance of students in Tertiary Chemistry. Therefore the use of POGIL improves performance of students in Tertiary Chemistry.

To promote the utilization of POGIL, an action was crafted by the researcher which includes key areas of concern, specific objectives, activities/strategies, persons involved, time frame, source of fund and success indicators. Revisiting and intricate revision is recommended for the viability of the said action plan for future academic endeavors.

Further improvement the study is given much importance, the following recommendations were provided by the researcher: (1) Teachers should promote varied teaching strategies, methods and approaches by which students will learn best, especially in TEI's; (2) School administrators should provide ample avenues for teachers to be equipped with novel, time-tested and research-based instructional innovations to be more effective in their craft; (3) Conduct the same study by which the time-span of the POGIL instruction will be longer and the coverage of topics would be wider in scope to decipher further the effectiveness of POGIL in Tertiary Chemistry; (4) Conduct an experiment on POGIL instruction in other disciplines; and (5) Conduct a comparative study on the effectiveness of POGIL to other relatively new approaches in teaching Science.