

**THE EFFECT OF THE USE OF MODELS AND ANALOGIES ON THE PERFORMANCE OF
FRESHMEN STUDENTS IN EARTH AND ENVIRONMENTAL SCIENCE AT
ROMBLON STATE UNIVERSITY-SAN FERNANDO CAMPUS**

A Thesis

**Presented to
The School of Graduate Studies
Central Philippine University
Iloilo City**

**In Partial Fulfillment
of the Requirements for the Degree
MASTER OF ARTS IN EDUCATION
(Major in Physics)**



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April 2012**

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by

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ABSTRACT

This comparative study using quasi experimental design was conducted to compare the performance of freshmen Bachelor of Science in Hotel and Restaurant Management (BSHRM) students in Earth and Environmental Science at Romblon State University-San Fernando Campus when the students were taught using models and analogies with the performance when students were taught using the traditional lecture method during the second semester academic year 2011-2012.

This study was conducted from November 8, 2011 to January 12, 2012. The subjects of this study were the sixty freshmen BSHRM students of Romblon State University, San Fernando Campus. Students' final grades in Nat. Sci. 101 (Biological Science) and Eng. 101 (Communication Arts I) were used as the bases in forming pairs with more or less similar academic performance. Random assignment of subjects was not established. Originally, there were thirty five students in the control group and thirty six students in the experimental group, however only thirty students in every group were considered because some students dropped and other students were athletes and were brought to higher meet. Thus, both the control and experimental group were composed of

thirty students. The variables of this study included the traditional lecture method and the use of models and analogies as the independent variables and the performance in Earth and Environmental Science as the dependent variables.

The quasi experimental design using non-equivalent control group design was used in the study. A 50 item teacher made test on selected topics in Earth and Environmental Science namely; (1) Influence of the moon on earth (phases of the moon, eclipses and tides), (2) Location (3) Seasons and Time and (4) Diastrophism was used as the instrument of the study. Both classes were handled by the researcher and utilized the one and one half hour classes, every Tuesdays and Thursdays, at two consecutive time schedules.

The data gathered were subjected to appropriate statistical tools processed through Statistical Package for Social Science (SPSS). Frequency distribution, mean and standard deviations were used to measure central tendencies and dispersion of the data respectively.

To determine the significance of the differences between means, t-test for dependent samples was used. The significance level of all tests was set at 0.05 level.

Findings

This comparative study revealed that there is no significant difference in the performances of the students in the control and experimental group before the treatment which means that the two groups have more or less the same performance at the beginning of the treatment. However, both groups significantly improved after the treatment. There was also a significant difference in the pre-test and post-test of the

students' mean scores both in the control and the experimental group. Furthermore, results of this study revealed that there was a significant difference between the mean gains in the performances of the students in the control and experimental group after the treatment. Although, there were significant differences between the performance of the students in the control and experimental group, results may have been affected by other factors that led to the improvement and cannot be attributed to the intervention alone.

Conclusions

Based on the findings, at the beginning of the study, students in both groups have similar performance level and they qualified for comparable groups. Both groups improved significantly after the treatment. However, students who were taught using models and analogies showed better performance in Earth and Environmental Science compared to students who were taught using traditional lecture method. Since randomization of the subjects were not established, though students in the experimental group showed better performance compared to the control group, results may have been influenced by other factors such as maturity, testing, exposure to the lessons, and mortality. Results were possibly affected by the testing, since students took the same test which enabled them to remember some of the items and became "test wise". Moreover, mortality is another factor which possibly influenced the general performance of both groups since there were students who dropped and other were athletes whose attendance was irregular and thus they were excluded from the sample.