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DE LA SALLE UNIVERSITY

THE EFFECT OF THE USE OF HAND-HELD CALCULATORS ON MATHEMATICS ACHIEVEMENT AND ATTITUDES TOWARD MATHEMATICS OF FRESHMAN COLLEGE STUDENTS

A Dissertation

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Major in Mathematics

BY

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ABSTRACT

Purpose

The purpose of this study was to determine the effects of the use of hand-held calculators on the mathematics achievement and attitudes towards mathematics of freshman college students.

Procedure

The study was conducted among two of the sixteen intact mathematics of investment classes at De La Salle University. The two classes were assigned at random into the control and the experimental groups. The experimental group used hand-held calculators while the control group used the mathematical tables during the lessons on concept development. The researcher taught both classes the same content for seven weeks. Both groups were given pre and post achievement tests and pre and post experimental attitude scales to determine and compare possible changes in their mathematics achievement and attitudes toward mathematics as a result of the experiment. The achievement test and the attitude scales were developed and validated by the researcher prior to actual use.

The T-test for Dependent Samples and Analysis of Covariance with pre-achievement scores, college entrance

math scores, reading comprehension scores, and academic potential index as covariates were used to verify the hypotheses of the study at the 0.05 level of significance.

Findings

The use of hand-held calculators had a significant effect on the students' achievement based on the achievement test scores. This result was obtained after partialing out initial differences due to the four covariates.

On the other hand, the use of hand-held calculators had no significant effect on the subjects' attitudes towards mathematics. There was no significant difference between the experimental and the control groups in terms of their attitudes towards the course.

Conclusions

Based on the findings of the study, it can be concluded that the use of the hand-held calculator is more effective than the use of the mahematical tables in the development of concepts in a mathematics of investment course. It can also be concluded that the use of the hand-held calculator has no significant effect on the attitudes of students toward mathematics.

Recommendations

Based on the findings and conclusions of the study, it is recommended that teachers of Invesma classes should encourage the use of hand-held calculators among their students especially during the process of concept formation. It is also recommended that the study be replicated in another institution, or in other educational levels, using other factors or dimensions not covered by the present study.

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