A B S T R A C T

Purpose

This study aimed to diagnose the computational skills of high school freshmen prior to the experiment and to determine the effects of the use of the calculator on these pre-existing skills.

Procedure

The sample consisted of six best freshman classes from the different school districts of Manila. The experimental group involving three classes had a limited use of the calculator, that is, they used it only for computations anytime they were doing independent work but not during the presentation of the lesson wherein the teachers encouraged students to do more computations mentally. The control group, also involving three classes used paper-and-pencil algorithm, no one was allowed to use a calculator. These treatments lasted for seven months with their respective classroom teachers handling each of the six sections involved in this study. Both groups were pre- and posttested without calculators.

The t-test for dependent samples and analysis of covariance through stepwise regression with pretest and mathematical ability as covariates were used to verify the hypotheses of the study at 0.05 level of significance.

Findings

The pre - computational skill test revealed that the subjects performed the four fundamental operations on whole numbers, decimals and fractions with 33.01% proficiency.

The t-test for dependent samples revealed that both the experimental and control groups had significantly improved their computational skills.

After partialling out initial differences due to the two covariates the differences between computational achievement of the two groups was significant in favor of the experimental group.

Conclusions

The findings of the study suggest that graduates of public elementary schools in Manila have poor computational skills and that classroom instruction in

Mathematics I have improved these skills. The results of the study further indicate that the use of calculators along with mental arithmetic is more effective than paper-and-pencil algorithm in improving computational skills. It can also be concluded that the use of calculators had no adverse effects on the computational skills of the students.

Recommendations

Based on the findings and conclusions of the study, it is recommended that high school teachers should allow the use of calculators in appropriate computational situations and should provide exercises on mental arithmetic and estimation. It is also recommended that a similar study be conducted on the same year level using subjects from different ability levels and with adequate control over the teacher variable.