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THE EFFECTIVENESS OF MODULAR INSTRUCTION
IN THE STUDY OF SELECTED TOPICS
BASED ON IDENTIFIED DIFFICULTIES IN
ADVANCED ALGEBRA

A Thesis

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by

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ABSTRACT

This study is concerned with the development, testing and evaluation of modules in Advanced Algebra.

Specifically, it aimed to:

1. Develop modules based on the two most difficult topics in Advanced Algebra identified by the teachers in the field and based on the results of the diagnostic test administered. The two topics are:

    a. Module One – Exponents and Radicals

    b. Module Two – Linear and Quadratic

                     Inequalities

2. Evaluate the modules both quantitatively and qualitatively to determine their effectiveness.

The study was a three phase investigation: Development of Modules (Phase 1), Experimental Stage (Phase 2) and Evaluation of Modules (Phase 3).

Phase 1 resulted in the production of the two modules used in the study.

Phase 2 was the testing of the modules. The respondents of the study were thirty students, fifteen of whom were from the experimental group and the other fifteen from the control group. These two groups were matched and equated according to age, sex, grade in

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Math 2, results of the Otis-Lennon Mental Ability test and their pretest scores in Module One.

Phase 3 involved the quantitative evaluation using the results of the pretest and posttest of both groups and qualitative evaluation with teachers and students as respondents using the Likert scale questionnaire.

The statistical measures used in the treatment of data were the t-test for correlated and uncorrelated samples.

Results of the statistical test show that

1. There is a significant difference between the pretest and posttest mean scores of the experimental group in Modules One and Two.

Furthermore, the posttest mean is much higher than the pretest mean which can be attributed to the use of modular instruction.

Conclusion:

Since the performance of the students improved with the use of modules, then modules are effective self-instructional materials.

2. There is a significant difference between the pretest and posttest mean scores of the control group in Topics 1 and 2.

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Furthermore, the posttest mean is higher than the pretest mean which can be attributed to the use of the lecture discussion method of instruction.

Conclusion:

Since the performance of the students improved with the use of the lecture-discussion method, then this method of teaching is effective.

3. There is a significant difference between the posttest mean scores of the experimental and the control groups in each module in favor of the experimental group. This is attributed to the use of modular instruction.

Conclusion:

Since the performance of the students exposed to the modular instruction is much better than the performance of the students exposed to the lecture discussion method of teaching, then modular instruction is more effective than the lecture discussion method of instruction in imparting the concepts in Modules One and Two.

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The qualitative evaluation of each of the two modules show that majority of the respondents have favorable responses concerning the usefulness, clarity, content and format of the module.
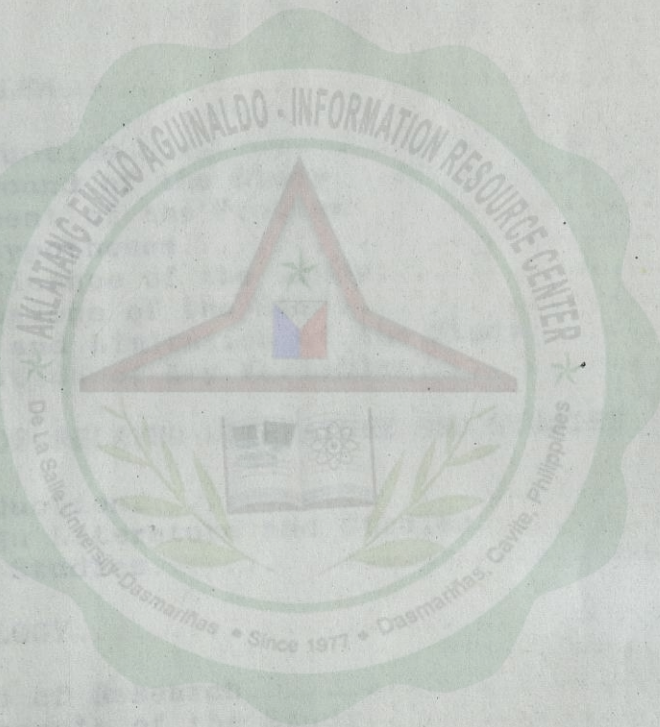
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