A STUDY OF THE ACHIEVEMENT

IN ADVANCED ALGEBRA IN SELECTED

ILOILO HIGH SCHOOLS

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A Thesis

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by

Anita S. Granpeñas

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CHAPTER I

INTRODUCTION

This present study deals with the achievement of students in Advanced Algebra, so it is of the utmost importance to make a brief statement of the place of Algebra in the high school.

In the Philippines there are two bureaus under the Department of Education which have somewhat different policies regarding the unit requirement in mathematics for graduation from the high school. The Bureau of Public Schools requires all public high schools adopting the General Type A curriculum or the General Secondary Curriculum to offer one and one-half units of mathematics and graduation of the students is based upon the completion of these units. The required subjects are General Mathematics, which is a one-year subject credited with one unit given in the second year, and Advanced Arithmetic, which is taken for only one semester by third year students. This is credited with one-half unit. However, a student taking the General Type A curriculum may earn more than one and one-half units. He may be allowed to take optional subjects. The optional subjects are geometry and advanced algebra. Advanced algebra is a semestral subject which carries only one-half unit. These two optional subjects are taken in the third year. This means that if a

student desires to take all the mathematics subjects in the high school, he has to take three mathematics subjects containing two units in all in his third year. This bureau policy includes all secondary schools except the technical schools such as the trade schools, agricultural schools, and other vocational schools.

The Bureau of Private Schools has adopted the policy that graduation shall be based upon the satisfactory completion of three units in mathematics.[1] However, this policy has been revised by another memorandum issued recently requiring only two units of pure mathematics subjects.[2]

The Mathematics subjects required by the Bureau of Private Schools for the private high schools adopting the General Academic curriculum are: General mathematics or Elementary algebra in the first year, geometry in the second year, advanced algebra for the first semester and advanced arithmetic for the second semester in the third year. A student who is enrolled in the school following this curriculum has to take all these subjects whether he is interested in them or not. The time allotment for each of these subjects is forty minutes per day, five days a week.

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[1] Memorandum No. 6 s. Bureau of Private Schools, Department of Education.

[2] Memorandum No. 11, s. 1951, Bureau of Private Schools, Department of Education.

Before the school year, 1947-1948, all the first year students of the private high schools were given elementary algebra. But beginning with the school year 1947-1948 general mathematics was prescribed for the first year of the General Secondary Course.[3] However, in the General Academic Course, the schools may offer General Mathematics or Elementary Algebra. In the four schools covered by this study, only one school is using general mathematics in the first year while the three schools are using elementary algebra. This fact is important as a background of this study of the achievement of students in Advanced Algebra.

It is not the purpose of this study to make a detailed comparison of the scope of elementary algebra and general mathematics in the first year with the potential consequences in advanced algebra in the third year. However, in the course of this investigation, the answers to the following questions may be found: Will the students be better prepared if they take general mathematics in the first year? Or will they be better prepared if they take elementary algebra instead? How will this affect their achievement when they take the Intermediate Algebra?

The above questions introduce the main problem of this thesis.

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[3] Memorandum No. 10, s. 1947, Bureau of Private Schools, Department of Education.

CHAPTER II

THE PROBLEM

In this investigation, the writer studied the achievement of students in advanced algebra in the four private schools in the City of Iloilo. The following questions were to be answered from the data gathered:

1. What types of problems and exercises can the students do with mastery?

2. What types of problems and exercises can the students do with poor mastery?

3. What is the average performance of the students in eight areas of advanced algebra?

4. What is the variability in the scores obtained by the students?

5. Is there a marked discrimination of the questions between the superior and the inferior groups of students? In order to find the answer to this question, the students were divided into three groups according to their performance. Then these sub-questions were asked: (a) What percentage of the students in these three groups answered each item correctly?

b. What percentage of the students in these three groups did not answer each item correctly?

c. What percentage of the students in these three

groups omitted each item?