DEVELOPMENT OF SELF-INSTRUCTIONAL MATERIALS THAT MEET SELECTED DEFICIENCIES IN PHYSICS OF STUDENTS IN THE BSIT CURRICULUM, SSPC

JOSE S LABRO

Marikina Institute of Science and Technology
Marikina, Metro Manila

DEVELOPMENT OF SELF-INSTRUCTIONAL MATERIALS THAT MEET SELECTED DEFICIENCIES IN PHYSICS OF STUDENTS IN THE BSIT CURRICULUM, SSPC

A Seminar Paper

Presented to

the Faculty of the Graduate School

Marikina Institute of Science and Technology

Marikina, Metro Manila

In Partial Fulfillment

of the Requirements for the Degree

Master of Technician Education

by

JOSE S. LABRO

1983-1984

ABSTRACT

The main focus of this study was the construction and validation of self-instructional materials based on selected identified deficiencies in physics of students in the BSIT curriculum of the Samar State Polytechnic College (SSPC) at Catbalogan, Samar.

The general problem of the study was "How can self-instructional materials be developed to meet selected deficiencies in physics of students in the BSIT curriculum of SSPC?"

Specifically, the study sought answers to the following questions:

1. What difficulties in physics are encountered by students in the BSIT curriculum of the Samar State Polytechnic College?

2. Is there a significant difference between the pretest and posttest scores of the experimental groups?

3. How are the experimental groups compared in their performance as a consequence of the use of the developed self-instructional materials?

4. Are the developed self-instructional materials appropriate for second year college students in terms of the level of readability?

A diagnostic test, pretested and validated, was conducted to the entire population of the second year BSIT

class enrolled during the second semester of SY 1983 - 1984 to determine the degree of difficulty of the students on the topics commonly discussed in mechanics. The first and the third, Fluids in Motion and Fluids at Rest, highest ranking deficiencies were considered for modularization.

A tryout of the developed modules was done at SSPC utilizing two experimental groups. The first group consisted of 15 engineering students who had no previous knowledge on fluid mechanics. The second group, in contrast with the first group, comprised 17 BSIT students who finished the two-semester course in physics.

Flesch formula was employed to determine the level of readability of the developed materials.

In the light of the specific problems posted in this study, the following were the findings of this investigation:

1. Of the 12 topics included in the diagnostic test, six were identified as deficiencies of BSIT students, viz, in decreasing degree of difficulty: Fluids in Motion, Harmonic Motion, Fluids at Rest, Circular Motion, Rectilinear Motion, and Rotation of Rigid Bodies;

2. There is a significant difference between the pretest and posttest scores of the experimental groups, the posttest scores being much higher than the pretest scores;

3. There is no significant difference between the means of the posttest scores of the two groups;

4. The use of Flesch formula revealed that the deve-

loped self-instructional materials were interesting and appropriate for first year and second year college students.

TABLE OF CONTENTS

CONTENTS

CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF FIGURES

CHAPTER I

INTRODUCTION

This introductory chapter consists of the background of the study, statement of the problem, significance of the investigation, and its scope and delimitation.

Background of the Study

Closely associated with economic progress of a country is its technological advancement and manpower development. In a country characterized by an unstable economy and an overblown population, one of the alternative courses of its ruling leadership is towards industrialization and manpower training.. Such is the case of the Philippines.

Yet, promoting economic advancement demands a host of other factors that includes appropriate skills training, technology orientation, and discipline (Roño:1983:7)+.

It is with this challenge of economic development that the Samar State Polytechnic College, formerly the Samar School of Arts and Trades, a state institution founded on 1912 in Catbalogan, Samar, has through the years provided manpower to the growing industrial economy of Region VIII

+Body notes that contain year of publication but not pagination mean that the entire text is the source of the idea used.