ERROR ANALYSIS OF GRADE IX STUDENTS IN FACTORIZATION

A
THESIS
BY
GOPAL CHANDRA BHANDARI

FOR THE PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF MASTER IN MATHEMATICS EDUCATION

SUBMITTED

TO

DEPARTMENT OF MATHEMATICS EDUCATION
CENTRAL DEPARTMENT OF EDUCATION
TRIBHUVAN UNIVERSITY CAMPUS
KIRTIPUR, KATHMANDU, NEPAL
2014

Thesis submitted

By

Gopal Chandra Bhandari

Entitled

"Error analysis of grade IX students in factorization has been approved in the partial fulfillment of the requirements for the Degree of

Master of Education.

Committee of the Viva-Voce	Signature
1. Prof. Dr. Lekhnath Sharma	
(Chairman)	
2. Prof. Dr. Hari Prasad Upadhyay	
(Member)	
3. Mr. Abatar Subedi	
(Member)	
	Date:

CERTIFICATE

This is to certify that **Mr. Gopal Chandra Bhandari** a student of academic year 2066/2067 with Campus Roll No.: 1370/067 BS, Symbol No.: 281376/2067 and T.U. Regd. No.: 9-2-29-1001-2006 has completed his thesis under my supervision during the period prescribed by the rules and regulations of Tribhuvan University, Nepal. This thesis entitled "**An error analysis of grade IX students in factorization**" has been prepared based on the results of his investigation. I recommend and forward that; his thesis should be submitted for the evaluation for awarding the degree of Master of Education.

(Mr. Abatar Subedi)	(Prof. Dr. Lekhnath Sharma)
Supervisor	Head
Date:	

ACKNOWLEDGEMENT

I, as a researcher of this study, would like to acknowledge the generous help

given by my respective teachers and colleagues who were directly and indirectly

involved to carry out this study, Firstly, I would like to extend my sincere gratitude to

my respected guru and supervisor Mr. Abatar Subedi, Lecturer Department of

Mathematics Education, T.U. Kirtipur, from whom I have got invaluable suggestions,

encouragement, insightful comments and appreciable guidance with constitute the

foundation for this study

I would like to offer my deep gratitude to my respected guru Prof. Dr.

Lekhnath Sharma, Head, Department of Mathematics Education, T.U. Kirtipur for his

inspiration and suggestions to complete this work. I would like to acknowledge to all

teachers of Department of Mathematics Education.

I wish to acknowledge and express my profound gratitude to the head teacher

and mathematics teacher of selected schools for their valuable suggestions,

facilitating, advices and encouragement during my research work.

At last, I offer thanks to Nextgen Computer Center, Amritnagar, Kathmandu

who helps me for typing and printing out this paper and I cannot stay without giving

special thanks to my family for providing me economic support as well as invaluable

support.

Oct., 2014

Gopal Chandra Bhandari

iii

ABSTRACT

The purpose of this study was to describe "An error analysis of grade IX students in factorization" in Kathmandu district of Nepal with regard to age, gender, work, qualification and income.

This is a quantitative research. The research method applied in this study was small scale survey design. The researcher used questionnaire and interview as the main instrument for this study. The data was analyzed by using descriptive statistics percentage.

The researcher developed the test consisting 25 items on the basis of the prescribed textbook and curriculum with an appropriate method prescribed by the research methodology. For this the researcher administrated test paper with 20 students of Gyankunj Higher Secondary School, Kathmandu.

The population of the study consists of the students of grade IX of a Boarding School at the end of their session of Kathmandu district. The sample of the study was selected only 123 students. The researcher took only 20 students for in-depth interview from the sample students who committed maximum errors while solving the problems in factorization.

The test was administrated in grade IX students at the end of session to find out the error in problem solving in factorization .The time given for the test was only 90 minutes. The test was developed and administered among the sample students by using Newman interview schedule and incorrect response given to the question, error is classified according to where the first "breakdown" occurred in the attempts to get a solution found that (39.47 %)errors occurred at the comprehension stage, 10.98% errors occurred at the transformation stage, 32.98% errors occurred at the process skill stage, 12.17% errors occurred at the encoding stage, 4.40 % errors occurred at the carelessness stage and reading error was not found in this study.

The result of the study shows most errors occur on comprehension and process skill stage. It means the formation of the problem in the numeric form is the main task to solve any mathematical problem. Math teachers must be careful to find the specific places and instances where the students make mistakes frequently and take best possible steps to make them understand their weaknesses and solution.

TABLE OF CONTENTS	Chapters
Letter of approval	i
Letter of certificate	ii
Acknowledgement	iii
Abstract	iv
Contents	v-vi
I: INTRODUCTION	1-6
Background of the Study	1
Statement of the Problems	3
Objective of the Study	4
Significance of the Study	4
Delimitation of the Study	5
Definitions of Terms	5
II: REVIEW OF RELATED LITERATURE	7-13
Empirical Literature	7
Theoretical Literature	9
The Conceptual Understand of the Study	12
III: METHODS AND PROCEDURES	14-16
Research Design	14
Population of the Study	14
Sample of the Study	14
Data Collection Tools (Instruments)	15
Data Collection Procedure	15

Data Analysis and Interpretation	16
IV: ANALYSIS AND INTERPRETATION	17-31
Frequency Distribution Table of error	18
Identification of Errors	18
Reading Error	19
Comprehension Error	19
Transformation error	21
Process skill error	23
Encoding error	26
Carelessness error	28
Motivational Error	30
Main Reason of the Error	31
V: SUMMARY, FINDINGS, CONCLUSION AND	32-36
RECOMMENDATIONS	
Summary with findings	32
Conclusion	33
Implication and Recommendation	34
Suggestion for future study	34
BIBLIOGRAPHY	35