EFFECTIVENESS OF GEOGEBRA SOFTWARE ON MATHEMATICS ACHIEVEMENT

A

THESIS

BY

TIKA RAM ACHARYA

FOR THE PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE DEGREE OF MASTER OF EDUCATION

SUBMITTED

TO

DEPARTMENT OF MATHEMATICS EDUCATION

CENTRAL DEPARTMENT OF EDUCATION

UNIVERSITY CAMPUS

TRIBHUVAN UNIVERSITY

KIRTIPUR, KATHMANDU

2015

TRIBHUVAN UNIVERSITY

FACULTY OF EDUCATION

CENTRAL DEPARTMENT OF EDUCATION

Letter of Approval

A

Thesis

By

TIKA RAM ACHARYA

Entitled

"Effectiveness of Geogebra Software on Mathematics Achievement" has been approved in partial fulfillment of requirements for the Degree of Master of Education.

Committee of the Viva – Voce	**Signature**
1. Asso. Prof. Laxmi Narayan Yadav (Chairman)	.....
2. Prof. Dr. Hari Prasad Upadhyay (Member)	.....
3. Mr. Bed Prasad Dhakal (Member)	.....

Date: .....

TRIBHUVAN UNIVERSITY

FACULTY OF EDUCATION

CENTRAL DEPARTMENT OF EDUCATION

Letter of Certificate

This is certify that **Mr. Tika Ram Acharya**, a student of academic year 2069/2070 with exam Roll No. 281259/2070, campus Roll No.327/2069, T.U. Regd. No. 9-2-666-52-2008 and thesis No. 1058 has completed his thesis under my supervision, during the period prescribed by the rules and regulation of Tribhuvan University, Nepal. The thesis entitled **"Effectiveness of Geogebra Software on Mathematics Achievement"** embodies the result of his investigation conducting the period 2015 at the Department of Mathematics Education, University Campus, Kirtipur, Kathmandu. I hereby, recommend and forward that his thesis be submitted for the evaluation as partial requirement to award the Degree of Master of Education.

.....	.....
Mr. Bed Prasad Dhakal	Asso. Prof. Laxmi Narayan Yadav
Supervisor	Head

Date: .....

ACKNOWLEDGEMENT

This research paper certainly would not exist without the encouragement, valuable advice, guidance and support that I got from my supervisor Mr. Bed Prasad Dhakal, starting with the preparation of the research study and ending with the final writing of the thesis. So, I would like to express my sincere gratitude to Mr. Bed Prasad Dhakal.

I express my deepest Gratitude to Prof. Dr. Hari Prasad Updhyay, Prof. Dr. Min Bahadur Shrestha, Asso. Prof. Laxmi Narayan Yadav, Dr. Bed Raj Acharya and all the respected Lectures and Readers of Department of Mathematics Education, FOE T.U. for their valuable suggestions and encouragements to complete this research paper.

I am indebted to Mr. Shyam Sunder Maharjan, principal of the Panga secondary school, Kirtipur and Miss. Nanda Kumari Maharjan, principal of the Janasewa Higher secondary school for giving their consensus of approval to experiment and collect the related data.

The greatest feelings of gratitude go to my parents for the support and care that they gave me during my study.

.....

Tika Ram Acharya

ABSTRACT

This study is aimed to find the Effectiveness of GeoGebra Software on Mathematics Achievement. To gain the motto of this study the researcher adopted the pretest-posttest nonequivalent control group design. To observe the effect of Geogebra in circle, researcher selected two secondary school of Kathmandu district. The researcher chooses 10 grade 28 students of Panga secondary school, Kirtipur as a experimental group and 25 students of Janasewa higher secondary school, Kirtipur as a control group. After one week of experiment researcher gathered data from Mathematics achievement test as well as Mathematics perception test.

The result of this study indicated that students in the experimental group have better achievement then control group. In addition, a five point Likert type of scale was used to elicit students' perception on the use of GeoGebra. Result of the questionnaire responses indicates a positive perception of using GeoGebra in Mathematics learning.

CONTENTS

LIST OF TABLE

LIST OF FIGURE

ABBREVIATION

DGS = Dynamic Geometry Software

CAS = Computer Algebra System

ICT = Information Communication Technology

NCTM = National council of Teacher of Mathematics

ICTIP = Information Communication Technology Integrated Pedagogy

GSP = Geometer's Sketchpad

ZPD = Zone of Proximal Development

NCED = National Centre for Education Development

MOE = Ministry of Education

MAT = Mathematics Achievement Test

GUI = Graphical User Interface