

**EFFECTIVENESS OF GEOGEBRA IN TEACHING CO-ORDINATE  
GEOMETRY**

**A  
THESIS  
BY  
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**IN THE PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE  
DEGREE OF MASTER OF MATHEMATICS EDUCATION**

**SUBMITTED TO  
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CENTRAL DEPARTMENT OF EDUCATION  
UNIVERSITY CAMPUS, KIRTIPUR  
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KATHMANDU, NEPAL**

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### **Recommendation for Acceptance**

This is to certify that Mr. Rajendra Khanal has completed his M. Ed. thesis entitled "**Effectiveness of GeoGebra in Teaching Co-ordinate Geometry**" under my supervision during the period prescribed the rules and regulations of Tribhuvan University, Kirtipur, Kathmandu, Nepal. I recommend and forward his thesis to the Department of Mathematics Education to organize final viva-voce.

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Bed Prasad Dhakal

(Supervisor)

September ..., 2019

## **Letter of Approval**

This thesis entitled **“Effectiveness of GeoGebra in Teaching Co-ordinate Geometry”** submitted by Rajendra Khanal in partial fulfillment of the requirement for the Master's Degree in Education has been approved.

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### Letter of Certification

This is to certify to Rajendra Khanal a student of academic year 2072 / 73 with campus Roll No. 496 Exam Roll No. 7228360, thesis number 1438 and T.U. Regd. No. 9-2-0285-0129-2011 has completed his thesis under supervision of Bed Prasad Dhakal during the period prescribed by the rule and regulation of Tribhuvan University, Nepal. The thesis entitled “**Effectiveness of GeoGebra in Teaching Coordinate Geometry**” has been prepared based on results of his investigation. I, here by recommended and forward that his thesis be submitted for evaluation as the partial requirements to the degree of Master of Mathematics Education.

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Assoc. Prof. Laxmi Narayan Yadav

(Head)

September ..., 2019

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Defensed Date: September 07, 2019

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**Dedication**

Honestly dedicated

To

My parents

Who spend their life to make me what I am today

## **Declaration**

This thesis contains no material which has been accepted for the award of other degree in any institutions. To the best of my knowledge and belief this thesis contains no material previously published by any authors except due acknowledgement has been made.

.....

Rajendra Khanal

September, 2019

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September, 2019

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Rajendra Khanal



## **Abstract**

This study entitled “Effectiveness of GeoGebra in Teaching Co-ordinate Geometry” is conducted with the specific objective: to compare the students achievements of GeoGebra assisted teaching over traditional teaching methods in teaching co-ordinate geometry. This study is based on pre-test post-test, non-equivalent control group research design on the theoretical basis of constructivism.

In this research, researcher selected two schools of Gorkha Municipality. The schools were selected by purposive sampling method. The coin toss method was used to decide the experimental and control group. There were 30 students in experimental group and 34 students in control group. The data were collected by math achievement test (MAT), questionnaire. The validity and reliability of the tools was established by pilot test. Further validation of the tools were approved by mathematics curriculum and expert judgment.

The finding of this study indicated that the students in the experimental group performed significantly better than that of the control group. In addition, student also agree that the GeoGebra assist to learn and enhance their achievement by use of GeoGebra as learning tool. Finally, finding of the research concluded that GeoGebra is the effective tool for teaching co-ordinate geometry.

## Table of Contents

<i>Letter of Certificate</i> .....	<i>i</i>
<i>Letter of Approval</i> .....	<i>ii</i>
<i>Recommendation for acceptance</i> .....	<i>iii</i>
<i>Copy Right</i> .....	<i>iv</i>
<i>Dedication</i> .....	<i>v</i>
<i>Declaration</i> .....	<i>vi</i>
<i>Acknowledgement</i> .....	<i>vii</i>
<i>Abstract</i> .....	<i>viii</i>
<i>Table of Content</i> .....	<i>ix</i>
<i>List of Table</i> .....	<i>xii</i>
<i>Abbreviations</i> .....	<i>xiii</i>

## Chapters

<b>I. Introduction</b> .....	<b>1</b>
Background of the study.....	1
Statement of problem.....	3
Research Question.....	4
Objective of the study.....	4
Hypothesis of the study.....	4
Significance of the study.....	4
Delimitation of the study.....	6
Operational Definition of key terms.....	6
<b>II. Review of Related Literature</b> .....	<b>8</b>
Review of Empirical Literature.....	8
Theoretical Review.....	11

Conceptual Framework.....	13
<b>III Methods and Procedures.....</b>	<b>16</b>
Design of the Study.....	16
Population of the Study.....	16
Sample of the Study.....	16
Independent, Dependent and Control Variables.....	17
Math Achievement Test.....	18
Construction of the Achievement Test.....	18
Pilot test and Item analysis.....	18
Questionnaire.....	19
Reliability and validity of the tool.....	20
Data collection Procedures.....	21
Data Analysis Procedures.....	21
<b>IV. Analysis and Interpretation of Data.....</b>	<b>22</b>
Section I: Comparison of achievements of the students of experimental group and control group.....	22
Analysis of the achievement of Pre-test.....	22
Analysis of the achievement of Post-test.....	23
Section II: Effectiveness of GeoGebra.....	24
Students view on learning mathematics.....	25
<b>V. Summary, Findings, Conclusions and Recommendations.....</b>	<b>30</b>
Summary of the study.....	30
Findings of the Study.....	31
Conclusions.....	32
Recommendation.....	33

**Reference.....34**

**Appendices**

## **List of Table**

Table 1: Design of the study.....	16
Table 2: Result of the Pre-test.....	23
Table 3: Result of the Post-test.....	24

**List of Figure**

Figure 1: Conceptual Framework.....15

## **ABBRIVATION**

CDC	Curriculum Development Center
CV	Control Variable
G.M	Gorkha Municipality
HTML	Hypertext Markup Language
ICT	Information and Communication Technology
IDV	Independent Variable
MAT	Math Achievement Test
M.ED	Master in Education
MOE	Ministry of Education
S.D	Standard Deviation
TU	Tribhuvan University
DV	Dependent Variable
LCEA	Laxmi Community Educational Academy
MSEBS	Modern Secondary English Boarding School.