

Difficulties Faced by Secondary Level Students in Learning Geometry

A

Thesis

By

Kamal Parajuli

For Practical Fulfillment the Requirement of

The Degree of Masters of Education

Submitted To

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LETTER OF CERTIFICATE

This is to certify that Mr. Kamal Parajuli, a student of academic year 2075/076 B.S. with thesis number 1421, Exam Roll No. 7228298, Campus Roll. No. 69 and T.U. Regd. No. 9-2-308-45-2011 has completed his thesis under the supervision during the prescribed by rules and regulation of T.U. Nepal. This thesis entitled, "**Difficulties Faced by Secondary Level Students in Learning Geometry**" has been prepared based on the result of his investigation concluded during the period of 2018-2019 under the department of Mathematics Education, Tribhuvan University campus, Kirtipur. I recommended and forward this thesis for the evaluation as the part of partial requirements to award the degree of master of Education.

.....

(Assoc. Prof. Laxmi Narayan Yadav)

Head

27 June, 2019



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LETTER OF APPROVAL

A

Thesis

By

KAMAL PARAJULI

Entitled

"Difficulties Faced by Secondary Level Students in Learning Geometry"

has been approved in partial fulfillment of the requirements for the Degree of Master of Education.

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RECOMMENDATION FOR ACCEPTANCE

This is to certify that Mr. Kamal Parajuli has completed his M.Ed. Thesis entitled "**Difficulties Faced by Secondary Level School Students in Learning Geometry**", under my supervision during the period prescribed the rules and regulation of Tribhuvan University, Kirtipur, Kathmandu, Nepal. I recommended and forward his thesis to the Department of Mathematics Education to evaluate in final VIVA-VOCE.

.....

(Krishna Prasad Adhikari)

Supervisor

27 June, 2019

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Declaration

I declare that his thesis is my own work, which contains no materials from other accepted dissertation of degree award, which has been already done in any institution.

Also I declare that thesis has not been submitted for any other degree.

.....

Kamal Parajuli

Dedication

This work is heartily dedicated to my mother Manakala Parajuli, Father Bed Prasad Parajuli, Little sister Laxmi Parajuli, and all teachers, friends and students who supported me in every situation of my life for what I am now.

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.....
Kamal Parajuli

Abstract

This research was designed to find out the difficulties faced by secondary level students in learning geometry with objective to explore the curricular factors that produce the difficulty in learning geometry and identify the environmental factors of learning difficulties in secondary level school students.

This study used mixed method design with sequential method. Purposive sampling technique was adopted to take the sample. Sample based on 100 students on the public schools of Arghakhanchi district for questionnaire and diagnostic text. Interviews were taken from mathematics teacher, low-achiever and high-achiever students. The data of the research is analyzed on the basis of primary data. The findings of this research may be generalized on remote areas schools of the country.

Findings showed that students had conceptual difficulties on the area of understanding geometrical objects, terms, definition, properties and theorems etc. and procedural difficulties on appropriate use of the geometrical tools, develop the conclusion from the experimental verification, connect required condition to prove the theorem, find the solution of application and appropriate formula use in appropriate situation.

There are various environmental factors also responsible such as significant implementation of the government policies, inadequate infrastructure of the schools, lack of sufficient material for learning geometry, lack of I.C.T. lab, inappropriate and insufficient training for mathematics teachers, anxiety and low interest of students towards geometry, lack of reference books with the students, insufficient integration of geometry curriculum, insufficient pre-knowledge of students, insufficient use of multiple ideas of learning geometry like as project work, group discussion, work on software such as geo-gebra, mathematica etc.

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Appindices

Abbreviation

ASA=Angle Side Angle Axiom

CDC= Curriculum Development Centre

ICT= Information and Commutation Technology

NCERT= National Council of Educational Research and Training

NCTM= National council of Teachers of Mathematics

RHS= Right Angle Hypotenuse Side Axiom

SAS= Side Angle Side Axiom

SSS = Side Side Side Axiom

A=Agree

D= Disagree

SA= Strongly Agree

SD= Strongly Disagree

SMC= School Management Committee