

DIFFICULTIES OF STUDENTS IN LEARNING TRIGONOMETRY

**A
THESIS**

**BY
TARANATH ADHIKARI**

**IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE
MASTER'S DEGREE OF EDUCATION**

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

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त्रिभुवन विश्वविद्यालय
काठमाडौं, नेपाल

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Letter of Certificate

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Letter of Approval

This thesis entitled “**Difficulties of Students in Learning Trigonometry**” has been approved in partial fulfillment for requirement of Degree of Masters Education.

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Date: May 21, 2019

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Recommendation for Acceptance

This is to certify that **Mr. Taranath Adhikari**, has completed his thesis entitled
“**Difficulties of Students in Learning Trigonometry**” under my supervision during the
period prescribe by the rules and regulation of Tribhuvan University, Kirtipur, Kathmandu,
Nepal. I recommend and forward his thesis to the Department of Mathematics Education to
organize final viva-voce.

Abatar Subedi

.....
(Supervisor)

Date: May 2, 2019

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Defenses date:.....

Dedication

This study is dedicated to my affectionate parents who gave me grandeur opportunity to step in this earth and all my respected teachers who have contributed to arrive me in this position.

Declaration

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

.....
Taranath Adhikari

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.....

Taranath Adhikari

Abstract

This is the survey research related to “Difficulties of Students in Learning Trigonometry” to find out the difficulties of students in learning trigonometry and to explore the remedies of difficulties of students in learning trigonometry at grade X. This study was conducted at grade X in two public and two private secondary schools. 155 students, three teachers and three mathematics experts were selected. Also five students were selected for the purpose of interview. Achievement test and interview guidelines were the tools of this research. Split-half method and triangulation method used for the reliability and validity of the tool respectively. Obtained data analyzed and interpreted by using mean, standard deviation. General inductive method was used for data analysis.

Finally, main difficulties were appropriate use of formulae, misunderstanding about trigonometry ratios and mathematical terminology, long term memory of definition and formula. It is found that there were lack of clear concept about reflection of object, elevation and depression angles, lack of pre-knowledge, rote learning more than conceptual, exam oriented and negative attitude towards mathematics. It is seen that when grading system came in SEE then students became lazy. It is found that remedies of difficulties need to study by formula and definition by making chain, matching abstract concept with pictures, more reputation and practice. Also conceptual learning, practice parallel problems, appropriate use of formula and reading together writing are the remedies of difficulties. Recommendations of further study are same study can be repeat in grade XI and grade XII and study can be done by taking other learning difficulties of students. Comparison of achievement in learning trigonometry between the students of public school and private school is another recommendation for further study.

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