ERROR ANALYSIS IN SOLVING MENSURATION PROBLEMS

A

THESIS

BY

DILIP KUMAR CHAUDHARY

FOR THE PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE

DEGREE OF EDUCATION

SUBMITTED

TO

DEPARTMENT OF MATHEMATICS EDUCATION

TRIBHUVAN UNIVERSITY

KIRTIPUR, KATHMANDU

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त्रिभुवन विश्वविद्यालय
शिक्षा शास्त्र केन्द्रीय विभाग

विश्वविद्यालय क्याम्पस
कीर्तिपुर, काठमाडौं, नेपाल

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UNIVERSITY CAMPUS
Kirtipur, Kathmandu, Nepal

TRIBHUVAN UNIVERSITY
CENTRAL DEPARTMENT OF EDUCATION
DEPARTMENT OF MATHEMATICS EDUCATION

पत्र संख्या:-
Ref.

मिति:
Date: ....

LETTER OF CERTIFICATE

This is to certify that Mr. Dilip Kumar Chaudhary , a student of academic year 2071/2072 with campus Roll No. 30/2071, Thesis number 1357, exam Roll No. 28710278, and T. U. Regd No. 9-2-225-277-2010 has completed his thesis under my supervision for the period prescribed by the rules and regulations of Tribhuvan University, Nepal. The thesis entitled "Error Analysis in Solving Mensuration Problems" has been prepared based on the result of his investigation conducted during the period of 2021. I, hereby, recommend and forward that his thesis be submitted for the evaluation as the partial requirements to award the Degree of Master of Education.

....

Prof. Dr.Bed Prasad Acharya

Head of Department

Date: 25 February, 2021

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<div align="center">**LETTER OF APPROVAL**</div>

This thesis entitled **"Error Analysis in solving mensuration problems"** submitted by Dilip Kumar Chaudhary in partial fulfillment of the requirements of the Master's Degree in Mathematics Education has been approved.

Viva-Voce Committee   **Signature**

Prof. Dr. Bed Raj Acharya   ………………….....

(Chairman)

Mr. Rajendra Kunwar   …………………………

(External Supervisor)

Mr. Abtar Subedi   ………………………….

(Supervisor)

Date: March 5, 2021

Recommendation for Acceptance

This is to certify that Mr. Dilip Kumar Chaudhary has completed his M.Ed. Thesis Entitled "Error Analysis in Solving Mensuration Problems" under my supervisor during the period prescribed by the rules and regulations of Tribhuvan University, Kirtipur, Nepal. I recommend and forward his thesis to the Department of Mathematics Education to organize final viva-voce.

…………………..

Date: ……………………   Mr. Abtar Subedi

                                                                              Supervisor

Declaration

This dissertation 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 dissertation contains no material previously published by any authors except due acknowledgement has been made.

……………………

Date: Dilip Kumar Chaudhary

Dedication

This work is affectionately dedicated to my father Gaya Kant Chaudhary and mother

Prem Devi Chaudhary who even in a very difficult

Situation, gave me a great span of their

Life for what I am now.

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I am heavily indebted to my respected supervisor Mr. Abtar Subedi , Head Department of Mathematics Education, T.U. Kirtipur. His valuable constructive suggestions, instructions and scholarly guidance have become the greatest property for this dissertation. Without his constant supervision and intellectual guidance this would never have appeared in this form. Though, I haven't found any such word to express my deep gratitude to him for his kind help.

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Finally, I am also thankful to my colleagues for their cooperation and help to collect the data for the study.

I am very much grateful to my family for their inspiration and assistance throughout this work. I would especially like to thank my wife SanjanaOrgyanTharu. Thanks also go to Express Communication Service, Kirtipur, who assisted me in typing and formatting this thesis in well organized form.

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Dilip Kumar Chaudhary

Abstract

This is a study on "Error analysis in solving mensuration problems" aimed to identify the different types of error and analyze the causes of committing error. The objective of the study was to categorize the errors committed by the students of grade ten in solving problems of mensuration, to analyze the error committed by students in solving problems of mensuration in mathematics and to find out the causes of error in solving problems of mensuration in mathematics.

Here, the present study was concerned with error analysis. This is a quantitative and descriptive survey design research. The sample of this study consisted of 40 students of Shree Masi Lal Janta secondary school Kushha, and Bravebeart secondary school Karmeniya Saptari, Nepal studying at grade X as well as mathematics teacher and principal for interview.

A paper pencil test paper was prepared with the help of an authentic book of grade X. After that, the test was administered to the sample of students by the researcher himself. After that, Newman procedure of interview was administered in selected sample and then in depth interview was taken to find out the causes of error.

The study revealed that students had committed a number of errors in solving the problem of mensuration. The study showed that maximum error was committed in comprehension (24.53%) and transformation level (24.79%). There were many factors such as less practice in mensuration, basic conceptual knowledge, attitude of students towards mensurations, teacher qualification, lack of practice, mixed- up rules, incomplete thinking were responsible causes of errors made.

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