

**EXPLORING LEARNING DIFFICULTIES
OF GRADE XI STUDENTS ON LIMIT**

**A
THESIS
BY
KESHAB BELBASE**

**IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE
DEGREE OF MASTERS OF EDUCATION**

**SUBMITTED
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CENTRAL DEPARTMENT OF EDUCATION
UNIVERSITY CAMPUS
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NEPAL, 2022**



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Date: 22 May, 2022



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Letter of Approval

This thesis entitled “**Exploring Learning Difficulties of Grade XI Students on Limit**” has been approved in partial fulfillment for requirement of Degree of Masters of Education.

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Recommendation for Acceptance

This is to certify that **Mr. Keshab Belbase**, has completed his M.Ed. thesis entitled “**Exploring the Learning Difficulties of Grade XI Students on Limit**” under my supervision during the period prescribed 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.

.....

Prof. Dr. Binod Prasad Dhakal

(Supervisor)

May 22, 2022

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By

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Dedication

Dedicated

to

This work is affectionately dedicated to my Father Ram Prasad Belbase, Mother Rita Belbase, Elder sister Sita Belbase and My wife Asha Bhattarai who even in a very difficult situation gave me great span of their life for what I am now and toall my respected teachers.

Declaration

This thesis does not contain any other work which is offensive and beyond the copy right norms. To the best of my knowledge and beliefs, this research is truly based on my effort and it does not match with any researches that were published earlier in this university as well as others. I take all the ethical and legal responsibility for submitting this thesis.

.....

KeshabBelbase

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.....

Keshab Belbase

22 May, 2022

Abstract

This is a research entitled "Exploring learning difficulties of grade XI students on Limit ". This is a case study. The case for this study were the students of the grade XI. The study site was Gautam Buddha Secondary School, Kapilvastu and 28 students of civil engineering of Grade XI were selected as sample by using purposive sampling. The objectives of the study were to explore the difficulties of students in learning limit of Class XI and also to analyze the causes of difficulties of students in learning limit of Class XI. The data was collected through the test and interview guidelines. A total of four problems were asked in the test which was constructed on the basis of APOS theory. On the basis of test results, three respondents were selected for the interview and then in-depth interview was conducted. The collected information through the interview was systematized and analyzed according to the general inductive method.

The finding of this study indicates that the concept on definition of limit was somewhat weak for the students. They felt difficulty in finding the two sided limit, to differentiate between the value of function and limit of function and had misconceptions on the terms used on limit. It is concluded that the main causes of difficulties were that the students were focussing more on solving the problem using formula, they had a lack of graphical understanding of the function, there was irregularity of the students, lack of pre knowledge, weak performance of teachers etc. Hence, it is concluded that the teachers are focussing only on numerical problem besides providing the concept of the terms of limit and thus the students become exam oriented which illustrates that the limit is one of the difficult topics.

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