

**CULTURAL DIVERSITY AND DIFFICULTY IN LEARNING  
MATHEMATICS**

**A**

**THESIS**

**BY**

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***LETTER OF CERTIFICATE***

This is to certify Mr. Pashupati Shrestha, a student of academic year 2069-2070 B. S. with thesis number 1060, Exam Roll No. 281165 (2070), Campus Roll No. 1185 and T. U. Regd. No. 9-2-29-1509-2008 has completed his thesis under my supervision during the prescribed by the rules and regulations of T. U. Nepal. The thesis entitled **“Cultural Diversity and Difficulty in Learning Mathematics”** embodies the result of his investigation conducted during the period of September 2015 to September 2016 at the Department of Mathematics Education, University Campus, Tribhuvan University, Kirtipur, Kathmandu. I recommend and forward that his thesis be submitted for the evaluation to award the Degree of Master of Education.

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**“Cultural Diversity and Difficulty in Learning Mathematics”** has been approved in partial fulfillment of the requirements of the Degree of Master of Education.

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## ABSTRACT

This study focused on cultural diversity and difficulty in learning mathematics of culturally diverse students at school. The objectives of this study were to identify the difficulties in learning mathematics of culturally diverse students at school, and to explore the relationship between culture and learning mathematics. It concentrates on the specific themes of emerging main research questions based on difficulties in learning mathematics of culturally diverse students at school, relation between culture and learning mathematics, and effective teaching learning approach for culturally diverse classroom. In dealing with research questions based on the above themes, I used qualitative research design and ethnography approach to explore the multiple realities through the methods of observation, in-depth interview and documents analysis. One government school (i.e. Shree Shanti Vidhyagriha Higher Secondary School) was selected from Kathmandu district and eight students from grade VII and IX were selected on the basis of purposive sampling. Head teacher and two mathematics teacher were also selected as a sample of this study. The collected data were analyzed with the help of theories and related literatures. Cross match or triangulation was adopted to maintain the validity and reliability of the results of the study.

The study found that there is a cultural diversity in classroom. The culturally diverse students have many difficulties in learning mathematics. Pupil's weak perception on mathematics, lack of culture friendly curricular materials, mathematics anxiety, and traditional teaching learning activities, family's socioeconomic status, discrimination in classroom and home-school mismatch were the difficulties in learning mathematics of culturally diverse students at school. There is mutual relation between culture and learning mathematics. Integrate culturally relevant content and social issues, utilize culturally responsive instructional strategies and use cooperative learning in mathematics are the effective teaching approaches for the culturally diverse classroom at school. It has also concluded that mathematics teaching and learning ways from the schooling is not good. Existing school mathematics teaching learning practices seem failing to address social and cultural needs of the students.

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## ACRONYMS

ANOVA = Analysis of Variance

B. S. = Bikram Sambat

CBS = Central Bureau of Statistics

CERID = Research Center for Education Innovation and Development

CLD = Cultural and Linguistic Diversity

ICME = International Congress on Mathematical Education

ICMI = International Commission on Mathematical Instructions

IMO = International Mathematical Olympiads

NCTM = National Council of Teachers of Mathematics

NSW = New South Wales

Ph. D. = Doctor of Philosophy

SES = Socioeconomic Status

SLC = School Leaving Certificate

STLD = Supports Teachers, Learning Difficulties

T. U. = Tribhuvan University

UGC = University Grants Commission

USA = United States of America