AN ETHNO – MATHEMATICAL STUDY ON NEWAR COMMUNITY BASED ON CONCEPT OF BASIC MATHEMATICS

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DEDICATION

This work is affectionately dedicated to my family, my husband Santosh Paudel, my brothers, sisters and also to my friends.

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ABSTRACT

The purpose of this study was to explore the counting system, algorithm of four fundamental operations (addition, subtraction, multiplication and division) and measurement system as practiced in Newar community of Pokhara Metropolitan city. This study is carried on cultural, historical, pedagogical and mathematical perspectives. It also links those processes with mathematics curriculum. The researcher adopted the qualitative research methods to unveil local ideas of mathematics to interpret Newar. The study was on ethnographic basis. Pokhara metropolitan city (Bagar) was chosen for the study area. 20 respondents were taken in the first phase to find out the mathematics they use in their real life and 6 respondents of different age groups in-depth interview in second phase. Observations were adopted as data collection techniques and methods. Coding, shorting, analyzing and interpreting the data were carried out.

The study found that the numeration system of Newar is base 10. Except 10 other grouping system like (20, 50, 100) etc. in practice. They have developed their own script of numerals. Everything is in oral form of mathematics. Old and illiterate Newar people have their own maths processes that is simple commulation process. Numbers are decomposed in 10 groups for carrying out subtractions and division. Addition and multiplication are done by commulation process. They have their own traditional system of measurement. Length is measured with hand and finger, volume is measured with Mana, Muri, liters. Young/ literate people of Newar use Hindu Arabic number system, to do four fundamental operation in short cut method and use standard tools for measurement of area, volume, weight and length and distance.

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ABBREVIATION

CERID	-	Research Center for Educational Innovation and development.
IMP	-	Indigenous Mathematics Project.
NCHRTM	-	National Conference on History and Recent Trends of Mathematics.
NEC	-	National Education Commission.
NESP	-	National Education system Plan.
T.U.	-	Tribhuvan University.
UNESCO	-	United Nation Educational Scientific and Cultural Organization.