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Old Nepali mathematics books in modern day teaching and learning of mathematics

Abstract

A content analysis and comparison of the contents of four Nepali mathematics books based on a few categories suggested that current students and scholars may be benefited by using these historical sources in teaching and learning of mathematics. This presentation will discuss the categories that are being considered, and the findings based on these categories. Four Nepali arithmetic books from around 1900 are being scrutinized. The books under consideration are: the first mathematics book written in Nepali language, *Vyaktachandrika (Arithmetic)* (1884) by Gopal Pandey; the first mathematics book written in Nepali poetry, *Ankendushekhar (Pinnacle of numbers)* (1900) by Pahalman Simh Swar; *Ganitchandrachandrika (A treatise of mathematics)* (1922) by Raghunath Pant and *Shishubodha Tarangini part II (Series of lessons for children)* (1933) by Tikaram Dhananjaya. A content analysis and comparison of the books based on the categories *table of contents, preface, definitions, story problems, presentation style, treatment of zero, answer and solutions* suggested that there exist a few historical features that may be useful in the teaching and learning of mathematics today.

Arguments for using history are divided into two categories: history as a tool and history as a goal (Jankvist, 2009). According to Frejd (2013), such historical features may be used as both 'history as a tool' and 'history as a goal'. He suggests using historical contexts as 'history as a tool' to assist students and teachers in the learning and teaching of mathematics, and 'history as a goal' in the historical contexts to show that mathematics is a part of evolution of society and that mathematics has been developed and changed over time. As many of the contents are spread in elementary to high school level mathematics courses, there is an ample opportunity to use these historical features in various mathematics classrooms.

History of mathematics research on Nepali mathematics books is sparse. I will shed light on these early Nepali mathematics books and their authors. In this presentation, I will provide a few reasons for choosing these books, and why these categories were set for comparative study. I will also recite a few mathematical shlokas (verses), and explain how these mesmerizing verses maybe used in the classroom to motivate students.
