

**Marcela Chiorescu**  
Georgia College, USA  
marcela.chiorescu@gcsu.edu

## **Engaging with Primary Sources in a Mathematics for the Liberal Arts Course**

### **Abstract**

During the past two decades the use of primary historical sources in the teaching and learning of mathematics attracted an increased amount of interest. There is evidence that integrating original sources in the mathematics classroom has significant pedagogical value, however, more empirical studies of implementing history of mathematics in teaching are needed. My research study has started in spring 2017, in two of my sections of mathematics for liberal arts course where I replaced the textbook with primary historical sources for two topics: the Babylonian numeration and the triangular numbers. The use of primary sources in my classes emerged from my desire to expose students to the “mathematics-in-the-making” as opposed to “mathematics-as-an-end-product” they found in their textbooks. The primary sources projects were designed similar to the “guided reinventions” of Freudenthal who strongly believed that “learners should be allowed to find their own levels and explore the paths leading there with as much and as little guidance as each particular case requires”. For each of the two topics, Babylonian numeration and the triangular numbers, I implemented one guided project taking one 50-minute class period. These projects contain excerpts from original historical sources and exercises designed to lead the students in their discovery on the new concepts. My students tackle these in groups of 2-3 students with little or no help from me. Using history-as-a-tool in my projects, especially playing the role of a cognitive tool in supporting the learning of mathematics, my research study was framed around the following questions:

- Are the students able to engage with primary sources to uncover math concepts and to develop their own understanding of these concepts?
- What do students identify as obstacles and benefits of learning from primary sources?

To answer these questions, I analyzed my students’ work from their projects and their answers to the post-project reflection surveys. My presentation will include the school context in which I developed my projects, the implementation of my projects into the classrooms and the analysis of my results.

---

---