

ABSTRACT

Project Title: A Comparative Analysis of Turkish, Singapore and American 6th and 7th Grades Mathematics Textbooks

Differences among textbooks are often attributed as a variable affecting students learning opportunities and thus explaining the variation in students' performances. Since Turkish Ministry of National Education (MNE) has reformed mathematics education curriculum for elementary (grades 1-8) and secondary (grades 9-12) schools, new mathematics textbooks that are different than the previous ones in many respects are now in the service of student. However, there is no study in the current literature comparing the new Turkish mathematics textbooks with those of other countries. Thus, the purpose of this study was to compare Turkish, American, and Singapore mathematics textbooks at grade levels 6 and 7 based on their content and organization. The comparisons focused on their visual design, readability, organization of chapters, the relative weights of content strands, content topics covered, styles of presentation, the emphasis of the development of conceptual knowledge and procedural skills in selected topics (e.g., ratio and proportion) and the cognitive demands of problems and exercises. Results have indicated the existence of various assumptions and choices concerning mathematics educations in different countries. For example, compared to Singapore and American textbooks, Turkish mathematics textbooks investigated follow a moderate path in terms of the density of text and visual objects and use creative, flexible and integrative approach in content organization. Furthermore, while the focus is on geometry in 6th and 7th grade Turkish textbooks, the emphasis on algebra is less than what it is in Singapore and American textbooks. On the other hand, while Singapore textbooks has half or one-third of the number of concepts covered in American textbooks, the number of concepts covered in Turkish texts are less than American texts but more than Singapore texts. On the other hand, while Turkish textbooks contain many student centered activities and other tasks, their quality has weakness in directing students towards in depth thinking about concepts covered. In this respect, Turkish textbooks need to be improved through integrating content related pedagogical knowledge as an outcome of teachers' experiences and research.

Keywords: Mathematics textbooks, International comparative studies, Content analysis, Middle school mathematics education, Middle school mathematics curriculum