An Analysis on Eight Grade Mathematics Textbook of New Indonesian Curriculum (K-13) Based on Pisa's Framework

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DOI: https://doi.org/10.23917/jramathedu.v1i1.1780

Abstract

This study aims to analyze and describe the mathematics problems in the eighth grade mathematics textbook of new Indonesian curriculum (K-13) based on The Programme for International Student Assessment (PISA) frameworks. The object of this study was the revised version textbooks of the eighth grade mathematics student's book published by The Ministry of Education and Culture (Kemendikbud) in 2014. The framework of the analysis in this study was the PISA components consisting of process, content, and context with its categories. The research method was descriptive quantitative. The data was collected by observing the contents of the textbook and interviewing the students and the teachers in SMP Negeri 2 Rembang. The analysis showed that the contents of the textbook were in accordance to the PISA components. The result also indicated that in both semester of the students' book, the problems involving the process of employing mathematical concepts, facts, procedures, and reasoning were more dominant than others. Moreover, in the contexts, the problems were dominated by the personal context. Furthermore, the first semester students' books were dominated by the change and relationships contents while the second semester books were dominated by the space and shape contents.

Keywords

Mathematics textbooks, Indonesian curriculum 2013, PISA

Full Text:

PDF

References


Novita, Rita., Zulkardi & Hartono, Yusuf. (2012). Exploring Primary Student’s Problem Solving Ability by Doing Tasks Like PISA’s
This study presents a content analysis of the new Iranian Grade 9 mathematics textbook and two Australian Year 9 mathematics textbooks, examining the extent to which the problems show characteristics associated in the literature with promoting mathematical literacy. The new Iranian book was produced to meet a range of needs including several well aligned with mathematical literacy for all students. Australia was selected as the comparison country because of its relatively high international achievement in mathematical literacy. Three comparable chapters in each book were analysed for these cha...  The OECD PISA international survey of mathematical literacy for 2012 is based on a new Framework and has several new constructs. This study compared how selected mathematics textbooks from Mainland China and the United States at the lower secondary grade level represent various types of problems for classroom teaching and...  The examination of problems was carried out based on the classifications of problem types established in the study, including routine problems versus non-routine problems, open-ended problems versus close-ended problems, traditional problems versus non-traditional problems, and application problems versus non-application problems, among others. Both the similarities and differences in the representation of problems in the selected textbooks were analyzed. New directions in elementary school mathematics. Englewood, NJ: Prentice-Hall. Google Scholar. Korithoski, T.P. (1988). An Analysis of Singaporean versus Indonesian Textbooks Based on Trigonometry Content. Article. Full-text available. Responding to students’ performance in TIMSS and PISA in East Asian countries/regions – low interests, low confidence, not seeing the value of mathematics, and high-achieving performance in average but a substantial percentage of "lowest performers" – a project JUST DO MATH has been launched in Taiwan. General conclusion, based on the findings, is that there is significant correlation between parental influence and students’
achievement in mathematics and science, in all areas of the research.