

ABSTRACT

The aim of the dissertation thesis is to study the non-mathematical content of textbooks of mathematics. Textbooks of mathematics are not only a pedagogical document but also a cultural artefact that is produced in a particular society with its own cultural norms. While working with a textbook of mathematics, pupils come across many images of everyday life. Yet, since the main goal of a mathematics textbook is to help pupils gain knowledge and skills in mathematics, not much attention is paid to textual (non-mathematical, cultural) content. This means that pupils almost on everyday basis visit a world that tries to awaken the illusion of being “real”, of being model of reality but in fact is a model for what is perceived as normal. The question asked in the presented research is what images of everyday life pupils come across while working with Czech textbooks of mathematics and whether there are differences among textbooks by different authors in this respect. Within the frame of this research, five sets of textbooks for 6th grade of lower secondary schools and four textbooks for 9th grade (only the chapter on financial mathematics, an area closely connected to everyday life) were analysed with respect to their non-mathematical, cultural content. The method used in the research comes out of the principles of grounded theory as well as elements of literary theory. Images of everyday life in the textbooks are analysed and categorized, which allows comparison of different sets of textbooks as well as making more general conclusions. The thesis also presents several research studies that were conducted at the preliminary stage of main research (attitudes of pre-service teachers to textbooks of mathematics, word problems posed by pre-service and in-service teachers, authors’ and publishers’ attitudes and opinions, word problems in online environments, impact of gender non-stereotypical assignment of word problems on pupils’ performance etc.). The conclusion of the research is that there are significant differences among the analysed sets of textbooks. The research also shows that non-mathematical, cultural content of textbooks is the factor that is responsible for the process of their outdateding.

KEYWORDS

Textbooks of mathematics, non-mathematical content, word problems, cultural reproduction, literary microcosm, cultural patterns and norms