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General Tasks of Mathematical Education Development

Abstract. The paper discusses basic implementation aspects of the Mathematical Education Development Concept, adopted by the Russian Government in 2013. According to the above document, the main problems of mathematical education include: low motivation of secondary and higher school students for studying the discipline, resulted from underestimation of mathematical knowledge; and outdated educational content, overloaded by technical elements. In the author's opinion, a number of important new mathematical fields, developed over the last years, - the graph theory, discrete mathematics, encoding theory, fractal geometry, etc – have a large methodological and applied educational potential. However, these new sub-disciplines have very little representation both in the secondary and higher school mathematical curricula. As a solution for overcoming the gap between the latest scientific achievements and pedagogical practices, the author recommends integration of the above mentioned mathematical disciplines in educational curricula instead of some outdated technical issues. In conclusion, the paper emphasizes the need for qualified mathematical teachers' training for solving the problems of students' motivation development and content updates.

Keywords: motivation for studying mathematics, learning content, fundamental content, discrete mathematics, fractal geometry, teachers' training.

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