

Mathematics teacher training in pupils' research abilities developing

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School Standard in mathematics involves not only learn the mathematical facts and regularities, but also to develop the emotional, critical and analytical thinking skills, this contributes to the creative and research activities. Pupils' mathematics research is rather new experience in Latvian schools. Teacher's goal is to organize the learning process so that the pupil is gradually mastering the steps of research, could understand the way of scientific thinking and gain experience in solving of the practical and theoretical problems. In order to help future teachers of mathematics in Daugavpils University was designed a special course of Master studies "Pupils' research activities in mathematics". In this course, the undergraduate teacher students must possess the following skills:

- choose a research task, which corresponds to the level of pupil knowledge and skills, his development of mathematical thinking;
- plan the research on mathematics lesson, combining individual and collective forms of work;
- formulate problem situation depending on the research task and aims of the lesson;
- work out criteria for evaluating the pupils' research activities;
- organize the research work of pupils outside the lesson (the wording of research topics, hypotheses, aims and tasks, expected results, the selection of literature).

The key areas of choice of subjects of mathematics research for pupils, we offer:

- solving of non-standard mathematical problems;
- study of the history of mathematics,
- study of mathematics methods and their applications;
- use of modern information technology to solve mathematical problems;
- establishment of inter-subject relationship with mathematics.

References:

1. European Research in Mathematics Education I. - Proceedings of the First Conference of the European Society in Mathematics Education, Vol.1-3 (editors: K.Krainer, F.Goffree, P.Berger), Osnabruck, 1999. <http://www.fmd.uni-osnabrueck.de/ebooks/erme/cerme1-proceedings/cerme1-proceedings.html>
2. Noteikumi par valsts vispārējās vidējās izglītības standartu un vispārējās vidējās izglītības mācību priekšmetu standartiem, <http://visc.gov.lv/saturs/vispizgl/standarti.shtml>