

Mathematics in the University Studies of Kindergarten Teachers

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Abstract

Since the school year 2002/03 there has been opened new three years Bachelor course for future kindergarten teachers at the University of Jan Evangelista Purkyně University in Ústí nad Labem. One of the subjects covered in the study plan is the development of mathematical thoughts. This subject is studied within three terms in the 2nd and 3rd years of the studies. The article describes the extent and content of this new subject.

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The main task of the course in the 3rd term of the studies is to explain the term of mathematical thinking and to show the development of this term in thinking of kindergarten children. We want to explain types of mathematical thinking, it means logical thinking based on the term of proposition and functional thinking based on the term of variable. Students learn about inductive thinking, intuition and the concept of intuition in mathematics. They study the theory of term forming in order to understand the range and content of a term. Students get to know about generic and specific term and its generality. They study arithmetic necessary for getting the conception of natural number and accounting.

The aim of the seminary in the 4th term of the studies is a development of mathematical thinking in geometry. This is the question of basic geometrical terms in the kindergarten education. The seminar is focused on geometrical forms, measuring principles, geometry in a graticule (square net), modelling, spatial and geometrical orientation and its development.

The seminary in the 5th term of studies concentrates on the methodology of the development of mathematical thinking in the sphere of ge-

ometry. Students are informed about foreign experience with the development of mathematical thinking of kindergarten children, preparation of kindergarten children for the school mathematics in families and in special preparation classes for children from a disadvantageous social-cultural environment. Students get into contact with children from ethnical minorities, children with specific learning and behaviour disorders and with handicapped children.

In each term of the course students have to work out the seminary work. The theme of the seminary work in the 3rd term is mathematical thinking. The minimal range of the work is 8 pages. The theme of the seminary work in the 4th term is a development of mathematical thinking in the sphere of geometry. The work should consist of 6 pages. 6 pages of the seminary work are also required in the 5th term. The subject of the work is the methodology of development of mathematical thinking, work with children from ethnic minorities and from a disadvantageous social-cultural environment and work with children with specific learning and behaviour disorders and handicapped children. Each term is finished by a credit and students have to pass an exam at the end of the whole course.

Reference

- [1] J. Divíšek: *Metodika-Rozvíjení matematických představ v mateřské škole*, SPN Praha, 1989.

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