

DYNAMIC MODEL OF MATHEMATICS TEACHER TRAINING

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“The purpose of education can be seen in the learners’ cultivation, particularly in the cultivation of their mental world.”
(Hejný & Kuřina, *Pedagogika* 2000)

In mathematics teacher training, we put emphasis on the support of constructivist approaches to mathematics education; not only verbally, but mainly in changes in actual teaching. In (Kubínová, Mareš, Novotná, 2000) we showed attempts to present constructivist teaching even in cases where detailed analysis showed that teaching by means of transmissive or instructive methods were used.

Our research

Large scale research done in 1999-2000 showed that:

- In mathematics, teacher training was conducted mainly by frontal and receptive methods. A static approach prevails (Kubínová - Novotná, 2000).
- From their own experience at school, students training to become teachers - our undergraduates - come to us with believing all teaching is transmissive.

If we want to change the nature of education we have to influence, above all, future teachers. We need to develop and cultivate their feelings about the functions and purposes of mathematical education. This implies a total change in the nature of existing teacher training concepts in the following directions:

- To create new schemas of transformation of scientific disciplines forming theoretical basis of pre-graduate mathematics teacher training.
- To move from a static, frontal teaching strategy and faculty based environment to a dynamic one, characterised by constructivist methods of teaching and learning taught both at the faculty and in faculty schools.
- To train future teachers in concrete activities using modern forms of didactical interpretation rather than traditional ones.

We prepared a new model of mathematics teacher training and from Autumn 2000 we have been teaching it. The model is “dynamic” because it makes use of constructivist approaches in teacher training, including breaking the isolation of individual subjects. There are strong links between the faculty and faculty school environments and these together with the creative approach to teaching profession become a permanent part of the teachers’ future work.

Concrete examples of the proposed changes will illustrate the results of our research.

References

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