REFLECTION - ONE OF THE WAYS OF TEACHER PROFESSIONALIZATION

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Abstract: This contribution is a follow-up of the paper “Joint reflection in teacher training” presented at CIEAEM-58 and of the work in workshop, which was a part of CIEAEM-58 conference. It includes conceptions of possibilities of joint reflection use as one of the ways of (a) strengthening and development of teacher mathematic activities and (b) bringing teachers and researchers together. Examples of characteristic features and differences of various persons’ reflections are shown in concrete demonstrations. The presentation will stem from demonstrations of joint reflection performance of concrete teaching episode. There are some open questions stated in the text.

INTRODUCTION

In many didactic works, we encounter a notice that view of education essence changes. Learning and teaching is understood as an interactive and reflective process, embedded and ingrained in social and cultural context. In this context, demands arise to improve and cultivate (a) teachers’ beliefs about the basis, meaning and goals of the teaching of mathematics and (b) the quality and level of teachers’ professional competence (Climent & Carillo, 2001; Scherer & Steinbring, 2003; Hospesova & Ticha, 2003).

We speak about teachers’ professional competence. We understand it as a complex qualification, skills and dispositions for a successful performance of the profession, which (a) includes knowledge, skills, attitudes, experience, values and personal characteristics and (b) is based on a theoretical reflection of practical experience (Ticha & Hospesova, 2005). One of the attributes of the professional competence of teachers is a competence for a qualified pedagogical reflection (Krainer, 1996; Jaworski, 2003; Hospesova & Ticha, 2005). However, reflection is also understood as a way of cultivating competences (Hospesova & Ticha, 2007).

When we speak about carrying out and development of reflection we have in mind not only self reflection but also “joint reflection”.

The attribute “qualified” belongs (in our grasping) to such pedagogical reflection that incorporates analytical thought on teaching goals and content, teaching methods and their execution. We perceive reflection/joint reflection in a broad sense, i.e., reflection concerning the preparation, realisation, and evaluation of teaching process, course of the lesson, experiment, etc. (Ticha, Hospesova & Machackova, 2006).

AIM AND MAIN IDEA OF THE STUDY

In our research, we focused mainly on how a systematic qualified pedagogical self-reflection, individual reflection and joint reflection contribute to enhancement of professionalism of teachers.

We are concerned with the idea of improving the quality of “qualified pedagogic reflection”. How to spontaneously and appropriately bring teachers to (a) ask themselves questions
concerning causes of mistakes, inadequacies in lessons, unsatisfactory results, (b) look for ways of inadequacy removal and means of realization of proposed ways. This work should contribute to search for answers to the above-stated questions and at the same time strengthen cooperation between teachers and researchers.

We want to help teachers so that they could become „reflective practitioners“ (Schön, 1983; Jaworski, 2003). That is why we need to penetrate deeper in development (deepening and improving) of teaching process reflection. We investigated (a) what are teachers´ ideas of reflections, (b) what are their competences in teaching reflections and (c) we tried to identify characteristics of performed reflections and find their pros and cons.

WAY TO DEEP REFLECTIONS - METHODOLOGY

Where we started

In terms of Socrates-Comenius project, our team of teachers and researchers performed several teaching experiments, realization of which included (a) joint preparation for lessons, (b) mutual inspections of classes, (c) video recording and (d) joint reflection of didactically interesting parts of the video recording. In several years, we managed to create safe environment for work in this team. We assume that we managed to achieve that teachers began to realize in a non-violent way in which areas they need to “work on themselves”. They began to learn their deficiencies and tried to work on its removal. We believe that it resulted in improvement of all participants´ competences. In our presentation we will illustrate it by development teacher’s reactions on pupils’ judgment and reasoning of the correctness of calculation (Ticha & Hospesova, 2006).

What we did afterwards

A: We decided that it will be useful to compare reflections of team members with reflections of other teachers. We supposed that characteristics of reflections will show itself more markedly, which will help us develop further research. We expected differences, which are caused by different findings, experience and personal dispositions of individuals. That is why we asked teachers from various levels of schools for individual reflection of one teaching episode. We selected episode from teaching of fraction theme (detailed description is stated in Ticha, Hospesova & Machackova, 2006). We provided teachers with the same material that was at our disposal (video recording and transcription) and asked them for their written reflection. Precise strong guidelines or instruments for these reflections were not given.

B: In some workshops (e.g. CIEAEM 58) we advanced in two stages:

a) First the participants were asked to answer the question: What is reflection? What do you imagine on hearing the term qualified pedagogical reflection? What should reflection include?

b) Then the participants were asked to carry out reflection of the above-mentioned teaching episode under identical circumstances as the other groups, using video recording and transcript.
REFLECTION PERFORMANCE AND ITS RESULTS

What we found out

Ad (A): It seemed to us that teachers were helpless over how to describe, analyze and organize their view of pedagogical situation from real school experience. Written statements of this teacher group were mostly of narrative character. They may be characterized as a record of moments, unstructured summary of remarks from classes.

After we read individual teacher reflections, we met the authors. We tried to perform a joint reflection. We used as a basis some questions and governed our discussion by them (e.g. Why did the teacher act in the particular situation in such a way? What influenced her behavior? What were the pupils’ reactions? How did the communication proceed? Why? What could the teacher have changed?). It was characteristic for our discussion with teachers that each of them insisted on his/her criteria. Our endeavor to “move” focus of their interest, remind them of other important problems and find out views of these teachers on them was generally not responded. Teachers were all the time returning to their original interest.

Our impression was that teachers were not trying to see all complex of mutually influenced phenomena. On the other hand, neither their sensitivity to didactically interesting moments (interesting, unexpected solutions and pupil and teacher reactions) was developed.

Teachers observe

<table>
<thead>
<tr>
<th>Teachers neglect, do not observe</th>
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<tr>
<td>Teacher’s intention and its realization. Possible teaching alternatives. Teacher’s competences.</td>
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<tr>
<td>Professional-didactic problems.</td>
</tr>
<tr>
<td>Deep sight in less obvious but for lesson progress significant moments.</td>
</tr>
<tr>
<td>Reasons why teacher did not adopt a step, which they eventually regard as mistaken.</td>
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<tr>
<td>If steps they regard as necessary are in compliance with teacher’s intention.</td>
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From our experience resulted that the teachers need help in and guidance on how to reflect pedagogical situations (Scherer, Söbeke, & Steinbring, 2004). Their “reflective competence” should be developed as an ability to describe, analyze and organize pedagogical experience. Teacher should be able to formulate questions concentrated on (a) description of pedagogical situation, (b) analysis of pedagogical situation, causes of acting, etc. (c) searching for various possibilities of acting in given pedagogical situation. Teachers often say that they need some instruction, some challenges that would guide them through the process of reflection. However, in their opinion this instruction should not be too restrictive. Also they are not really sure that they will actually use the instruction and work and behave in accordance with it (Hospesova & Ticha, 2007).

Ad (B): As indicated above, the meaning of the word reflection itself is not understood uniformly. Diversity of its understanding expressed itself for example when we asked workshop participants to write what they imagine under “qualified pedagogical reflection.” Typically, the participants tried to make a list of characteristic features of various degree of universality (we encountered both “grand ideas” and very particular lists of items and phenomena that should be taken into account and studied).
There were disproportions between answers to question (a) and (b), i.e. differences between theoretical approach (proclamations) and execution, reflection on a concrete situation in which views stated in (a) were not taken into account. Only loose connection between the two stages could be (as a rule) observed. In answers to (a), participants formulated general objectives of reflections, what their focus should be, but these aims were not concretized in (b).

Answers of novice teachers group were instructive for us. They tried to apply their theoretical knowledge, which is, however, usually not seemly absorbed and not connected with experience. Their characteristic of reflection makes a markedly formal, artificial impression – as learnt “propositions”. It will be shown in detail in our presentation.

Contribution of reflection

It was clear that although the objectives of researchers and teachers seem to be identical – to improve teaching and achieve higher standard of education – they are in fact very different. Researchers look for answers to theoretical questions while teachers deal with practical problems.

The performed experiments indicate that it is beneficial for all participants – teachers, pupils and researchers – to try to carry out joint qualified pedagogical reflections. To teachers, it brought a change of understanding and assessing of (a) their own role, (b) what is essential for their work, c) their own professional knowledge, (d) benefit of reflection performance. To researchers, it meant (a) deepening of understanding of processes, which take place at mathematics teaching, (b) improvement of quality of teacher competence assessment (from intuition to junior researcher), (c) possibility to influence teacher competences, (d) improvement of didactic research. Pupils naturally also benefit from what reflections bring to teachers and researchers.

There are still several open questions, e.g.: How can we examine the benefit of joint reflection? How can we examine changes in teachers’ beliefs and knowledge? How can university people support teachers to reflect more deeply? What criteria are characteristic for a “reflective teacher”? What really is “action research”? A teacher has different tensions and priorities than a researcher. How does a teacher-researcher balance these tensions?

REFERENCES


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