Development of Classification Thinking in Future Teachers: Technologies of Reflective Discussion

Yonghui Cao, Ajalu T. Kurbanova, Nailia R. Salikhova

Abstract
The main objective of the research is to create and approbate a new way of reflection formation in future teachers, which would increase the level of classifying thinking to the theoretical one. The "Formation of equivalence groups" technique was modified to conduct the experiment. It was carried out both individually and in collaborative discussions in pairs which involved justification. This made it possible to reveal the degree of the reflection conformity to the norms of scientific thinking in solving classification problems, the main obstacles to the application of these norms and ways to overcome them. Results. As a result the ways of reflection were identified. The experiment resulted in the identification of two ways of substantiating solutions to classification tasks and processes of reflection: reflexive and pseudo-reflexive. The typology of pseudo-reflexive assessments is presented. Evaluation of an intuitively correct solution to a task anticipates a cogent justification of the reflexive process. Underdeveloped reflexive processes can limit the capacity of adults for scientific classification thinking. Existing methods of logic classes study at a higher school context do not provide well-developed scientific theoretical knowledge. Existing methods do not provide its scientific-theoretical level. Reflexive processes corresponding to this type of thinking are to be developed in a classification logic norms study. A wider use of specific sign means will provide an effective differentiation of reflexive and pseudo-reflexive forms. The development and enhancement of reflexive processes in relation to the assessment of educational outcomes can be undertaken with the help of formalized tools. Presented in the article technology of pseudo reflexive forms diagnostics and technology of reflection initiation based on the logic of classes promotes the rise of classification thinking to the theoretical level. The proposed type of tasks is not connected with the content of a certain scientific discipline and can be applied at different levels of education.

Keywords
thinking, classification task, metacognitive process, reflection, reflexive and pseudo-reflexive forms, education, future teachers

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Reflective teaching means looking at what you do in the classroom, thinking about why you do it, and thinking about if it works - a process of self-observation and self-evaluation. By collecting information about what goes on in our classroom, and by analysing and evaluating this information, we identify and explore our own practices and underlying beliefs. Reflective teaching is therefore a means of professional development which begins in our classroom. Why it is important. Beginning the process of reflection. Why it is important. Many teachers already think about their teaching and talk to colleagues about it too. You might think or tell someone that "My lesson went well" or "My students didn't seem to understand" or "My students were so badly behaved today." The teachers' reflective development process within the new model was initiated by the head/academic coordinator in 2012–2013 academic year. A total of 45 teachers went through the in-service development processes, teaching practices and the gaps perceived between what had been provided and what had been needed at the end of the previous year. Measuring reflection of each teacher provides important data and evidence of each teacher’s reflective abilities in the beginning of the teaching and learning process. This can be done in different ways. The best way of doing it is the use of a valid and reliable scale to compare the reflective performances of the teachers in the beginning of the teaching and learning process and at the end of it.