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**Naslov:** Mathematical dialogue as a tool for enhancing the understanding of mathematical concepts

**Sažetak:** We present the reasons for students' cognitive obstacles when dealing with more complex mathematical concepts. Two types of epistemological difficulties are highlighted. The first concerns the discrepancy between the formal definition of a concept and the learner's conceptual picture, which is built up over years through experiences of all kinds and changes as the individual encounters new stimuli and matures. The second is related to the dual nature of some abstract mathematical concepts, which requires judgement about which perspective to use in a given situation. Abstract mathematical concepts can be conceived in two fundamentally different ways: structurally - as objects, and operationally - as processes. In the following, we focus on one possible approach, which we consider to be an opportunity to correct misconceptions and improve one's understanding of mathematical concepts. This approach refers to the integration of mathematical dialogue in mathematics education, thereby raising awareness of the individual's own thought process in solving a mathematical problem. The empirical part presents a qualitative research conducted with students of the university programme Teaching - Subject Teaching, mathematics with connections. Using the method of mathematical dialogue with secondary school students, we investigated the metacognitive processes present in the student being taught and the student who led the dialogue. The analysis of the dialogues confirmed that the approach can be considered promising in the light of overcoming misconceptions about mathematical concept and raising awareness of the student's own metacognitive processes.

**Ključne riječi:** mathematical concept, misconception, metacognition, mathematical dialogue

**Cilj predavanja:**

- to present the reasons for students' difficulties in understanding abstract mathematical concepts
- to examine the role of mathematical dialogue in identifying misconceptions and deepening metacognitive processes in the student teacher and the student being taught

**Odgojno–obrazovni ishodi:**

justification of a didactical approach that contributes to a better teaching of mathematical concepts through the method of mathematical dialogue and the awareness of metacognitive processes in the participants in the learning process.

**Zaključci koji će se koristiti za razvoj kompetencija i vještina nastavnika:** The difficulties students have in understanding abstract mathematical concepts and the search for ways to overcome or at least reduce these difficulties are the source of countless debates among didactic mathematics experts. The individual's current stage of development cannot be bypassed, but appropriate pedagogical approaches can help to move more quickly between the stages of understanding a concept and to reach a level of objectification of the concept. A thoughtfully guided mathematical dialogue, which leads the learner to draw his/her own mental conclusions, can contribute to deepening the connections between the different representations of a concept, which is crucial for the reification of the concept. Examples of mathematical dialogues between mathematics students and secondary school students for selected mathematical concepts show shifts in understanding of the topic. The dialogue is seen in the light of triggering shifts, confronting one's own internal cognitive conflicts that arise as a result of the incoherence and disconnectedness of one's own understanding of the concept.