

Argumentation Reasoning and Mathematics proof

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This study reports a way to help students to organize their strategies to write mathematics proofs. The purpose of this is to justify why argumentation is important as a pedagogic strategy to facilitate the study of mathematics proof. In Brazil the taught of proofs follows a traditional deductive approach, where students try to repeat what their teachers wrote before. These students are engaged in a course with emphasis on deduction and proof but they are, in general, unable to understand logical deductions and consequently cannot write their own demonstrations. The researcher concluded that there is a necessity of develop a rhetoric argumentative thinking as mentioned by Perelman at the theory of the Argument or New Rhetoric. For him the New Rhetoric can be involved in the context of discussions about relationship between formal language and natural language. For that students are asked to talk aloud about their reflections. The purpose is for them organize their own reflections about their study and understanding deeply their strategies. They try to convince others about their thinking wishing to have others to affirm their statements. They make observations and conjectures, keep a record off all decisions made by the class, while use prior statements to validate or support new conjectures. After this students are asked to write logically their conclusions based on their according and register their observations producing a text to explain these conclusions. On this way the teacher is able to identify some of the organizing strategies students used for constructing their proof while students write informal proof naturally and with sense for them.

References:

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