

ARGUMENTATION BY PRESERVICE MATHEMATICS TEACHERS DURING THE PREPARATION FOR THEIR PRACTICUM

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Due to the complexity of teachers' argumentations in the classroom, it is required diverse skills, specifically, to argue during teaching. Several studies have shown that not only students have difficulties arguing about their mathematic ideas and comprehension but also prospective and in-service teachers (Barkai, Tsamir, Tirosh & Dreyfus, 2002) in regard to explaining. The main objective of the research is to study preservice teachers' argumentations when explaining geometry tasks. The argumentations are analysed in regard to four features: a) Structural qualities (logic-substantive, rhetoric and dialectic); b) The warrants (Toulmin, 1958) (a priori, empiric, institutional and evaluative); c) Modal qualifiers and d) rhetoric resources (illustrations, examples and models). This reports draws on the data of four preservice teachers that attended the 'Practicum' course, offered to prospective mathematics teachers in the School of Education, Antioquia University, Medellín, Colombia. During the first year the preservice teachers design and choose geometry tasks, solve and present them to their fellow colleagues, who commented and suggested improvements; in the remaining term, the teachers acted as teachers in the classroom. The data is taken out from classes planning, videos, audios and the notes taken during the sessions. The paper informs about the first year. It was found that the teachers prefer to argue using logic-substantive- that account for a logic stance. The warrants used are mainly a priori and empiric-that refer to previous knowledge and examples taken from daily life. The modal qualifiers are used according to the type of questions. If the questions posed by prospective teachers ask for previous knowledge, the modals refer to formal logic, but if the questions are guided by a teaching intention, the modal qualifiers point out to doubts. In regard to the rhetoric resources, teachers use only illustrations-graphics- and examples.

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References

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