

SYMP - (18660) - CHALLENGES RELATED TO THE REASONING PROCESSES OF GENERALISING AND JUSTIFYING

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Short Abstract

This communication is based on an in-service teacher education experiment, carried out within the scope of the REASON project. This paper aims to understand the contribution of the experiment to the appropriation of the meaning of the reasoning processes of generalising and justifying by teachers of grades 1 to 6.

The generalising is fundamental in Mathematics when we intend to make general statements about properties, concepts, or procedures; and justifying is essential to validate such statements. Besides, these two processes interact with each other, as in many situations the language used in justification must be general so that its applicability to the entire domain is clear; also, some generalisations only are established, when there are already justifications for them. Therefore, it is very important that teachers develop their knowledge about generalising and justifying, how to promote them in classroom and to recognise them during students' activities.

The study followed a qualitative-interpretative approach since it aims to understand the way teachers identify the reasoning processes in their pupils' records. Data were collected through participant observation, video-recordings and documents. In teacher education sessions teachers presented their pupils' records identifying and discussing the reasoning processes of generalizing and justifying.

The results show that distinguishing the processes of generalising and justifying is a critical issue, specifically when the justifying process involves a generalisation. They also evidence an evolution in the way the teachers signified these two processes, revealing a clearer and a deeper comprehension of both in the final phase of the experiment.