

ABSTRACT

Title: The pedagogy of variation
Different ways of handling a mathematical topic
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The present investigation describes the different ways teachers handle the content when they teach fractions and percentages. The aim of the study was to study teaching from a learning perspective.

The study includes five teachers and their pupils in four different schools. Four teachers teach in grade seven, the fifth in grade six. The data consists of audio-recordings of lessons and two interviews with each of the teachers. The teaching has been followed during six consecutive lessons in the respective classes and extends over the first week lessons of the teaching section of fractions and percentages.

When analysing the data, concepts relating to phenomenographic research into learning have been used as analytical tools. Data have been analysed in respect to what aspects of the content the teacher focuses upon, which aspects are left unfocused and which dimensions of variations that are introduced when the content is communicated to the pupils.

It can be shown that teachers, when they communicate the content to the pupils, focus or thematize certain aspects of the content and leave others unfocused or unthematized. It can also be shown that variation plays an important role in the teaching process. All five teachers demonstrate an orientation to the content as well as an ability to use variation - although in different ways - when they focus critical aspects of the content taught. By keeping some aspects of the content invariant and opening up for variation of others, a space of variation is constituted. This space of focused aspects and dimensions of variation make up a potentially experienced object of study. Three different kinds of such objects of study have been identified. When different kinds objects of study are constituted the pupils have the potential to experience, and thereby to learn, different meanings of fractions and percentages.