

A TEACHING PROPOSAL ABOUT RATIO AND PROPORTION WORKED WITH STUDENTS OF ELEMENTARY SCHOOL

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The present document is the report of a research that deals with the topics of ratio and proportion whose great importance nowadays has been shown on the studies that the researchers of different countries have made during various decades. The problem of research consists in reviewing the strategies used by the Mexican students of 6th grade of Elementary Education when they solve problems involving ratio and simple and direct proportions, in order to identify qualitative and quantitative components of though linked to these topics and their diverse modes of representation; which is the base of the design and the application of a teaching proposal about, that was adapted to the school's program.

The theoretical and empirical antecedents include a revision the cognitive aspect as a part of a disciplinary development, as well as didactic and psychopedagogic aspects, which was taking from Freudenthal (1983), Streefland (1993) and Coll (1998); respectively. It was pretended to do a conjunction between the mathematical reflection about ratio and proportion and the didactic aspects. Teaching proposal was conformed by six teaching models, considering the definition that Figueras, O.; Filloy, E. and Valdemoros, M. (1987) give of teaching model, which were retaken in different sessions as they were required by the advance of the teaching process, which is similar to what Streefland (1990) points out in his Realistic Theory, referring to the strategy of change in perspective. The elaboration of different tasks shows a progression, starting with the review of qualitative aspects for reaching the quantitative because the recognition of ratio as a relationship between quantities and proportion as the relationship between ratios.

Two phases manifested, interconnected, of the progression of the methodological instruments. The first one was the exploration phase, this was done through the *observations and the initial questionnaire*, the second phase, that was the one of enhancement, it took place with the *teaching proposal and the interviews*. The observation as well as the Questionnaires gave a light for designing the teaching proposal which was constructivism-didactic; it allowed the students to give sense and meaning to the concepts of ratio and proportion. The validation of the methodological instruments was carried out through a process of piloting by a triangulation of different sources of register and of crossed controls. As a way of evaluating this proposal, a *final questionnaire* was used and after this one the *interviews* were designed. The interviews had two intentions: evaluation and feedback.

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