

Primary School Teachers' Conceptual and Procedural Knowledge of Rational Number and Its Effects on Pupils' Achievement in Rational Numbers

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Abstract : The study investigated primary school teachers' conceptual and procedural knowledge of rational numbers and its effects on pupils' achievement in rational numbers. Specifically, primary school teachers' level of conceptual knowledge about rational numbers, primary school teachers' level of procedural knowledge about rational numbers, and the effects of teachers' conceptual and procedural knowledge on their pupils' understanding of rational numbers in primary schools is investigated. The study was carried out in Bauchi metropolis in the Bauchi state of Nigeria. The design of the study was a multi-stage design. The first stage was a descriptive design. The second stage involves a pre-test, post-test only quasi-experimental design. Two instruments were used for the data collection in the study. These were Conceptual and Procedural knowledge test (CPKT) and Rational number achievement test (RAT), the population of the study comprises of three (3) mathematics teachers' holders of Nigerian Certificate in Education (NCE) teaching primary six and 210 pupils in their intact classes were used for the study. The data collected were analyzed using mean, standard deviation, analysis of variance, analysis of covariance and t-test. The findings indicated that the pupils taught rational number by a teacher that has high conceptual and procedural knowledge understand and perform better than the pupil taught by a teacher who has low conceptual and procedural knowledge of rational number. It is, therefore, recommended that teachers in primary schools should be encouraged to enrich their conceptual knowledge of rational numbers. Also, the superiority performance of teachers in procedural knowledge in rational number should not become an obstruction of understanding. Teachers' Conceptual and procedural knowledge of rational numbers should be balanced so that primary school pupils will have a view of better teaching and learning of rational number in our contemporary schools.

Keywords : conceptual, procedural knowledge, rational number, pupils

Conference Title : ICSRD 2020 : International Conference on Scientific Research and Development

Conference Location : Chicago, United States

Conference Dates : December 12-13, 2020