Examining prospective mathematics teachers’ pedagogical content knowledge on fractions in terms of students’ mistakes.

Summary: The aim of the study is to examine prospective mathematics teachers’ pedagogical content knowledge in terms of knowledge of understanding students and knowledge of instructional strategies which are the subcomponents of pedagogical content knowledge. The participants of this research consist of 98 prospective teachers who are studying in two universities in Turkey. The participants were selected with the purposive sampling method which is one of the non-random sampling methods. Case study method, which is based on the qualitative research approach, was used. The answers given by secondary school students to fraction-related open-ended questions in the study of Soylu and Soylu were used as the data collection tool. The obtained data were analyzed via the content analysis technique. The analyses showed that the prospective mathematics teachers’ pedagogical content knowledge on fractions was not at an adequate level in identifying and correcting students’ errors. However, it was observed that the prospective teachers experienced more difficulty in the knowledge of instructional strategies compared to the knowledge of understanding students.

Classification: F40 C39 D70

Keywords: fractions; knowledge of instructional strategies; knowledge understanding; pedagogical content knowledge

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