

Pre-service Teacher Knowledge: Thinking About Conceptual Understanding

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ABSTRACT This paper reports on research conducted with pre-service teachers in a university in South Africa. Two groups of students, those who were doing a four-year teacher education degree and those who had completed a pure science and mathematics degree, were respondents in this research. The research reported in this paper is part of a larger study conducted. The data was analyzed using teacher knowledge, the Three Dimensions of Knowledge model and the commognitive process in mathematical thinking. The findings indicate that both groups lacked a deep conceptual understanding of gradients of straight lines, despite their being trained to practice as mathematics teachers the following year. Moreover, the data also showed that despite passing many university level mathematics modules, some of these pre-service teachers were uncertain about their understanding of the concept of gradient.