

ZMATH 2016f.00229

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Exploring prospective secondary mathematics teachers' interpretation of student thinking through analysing students' work in modelling.

Math. Educ. Res. J. 28, No. 3, 349-378 (2016).

Summary: Researchers point out the importance of teachers' knowledge of student thinking and the role of examining student work in various contexts to develop a knowledge base regarding students' ways of thinking. This study investigated prospective secondary mathematics teachers' interpretations of students' thinking as manifested in students' work that embodied solutions of mathematical modelling tasks. The data were collected from 25 prospective mathematics teachers enrolled in an undergraduate course through four 2-week-long cycles. Analysis of data revealed that the prospective teachers interpreted students' thinking in four ways: describing, questioning, explaining, and comparing. Moreover, whereas some of the prospective teachers showed a tendency to increase their attention to the meaning of students' ways of thinking more while they engaged in students' work in depth over time and experience, some of them continued to focus on only judging the accuracy of students' thinking. The implications of the findings for understanding and developing prospective teachers' ways of interpreting students' thinking are discussed.

Classification: C30 M10

Keywords: interpretations of students' thinking; prospective teachers; students' work; modelling

doi:10.1007/s13394-016-0170-6