

Professional mathematics teacher identity in the context of pre-service training

by

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Abstract

This study investigates the development and nature of Professional Mathematics Teacher Identity (PMTI) in pre-service teachers. It is an explanatory, interpretive case study in which six Fourth Year mathematics education students participated. PMTI is examined in terms of three aspects: Mathematics Specialisation; Teaching-and-Learning Specialisation and Caring, and the actualisation of these aspects is analysed in the context of the teaching practicum classroom. The effect of each student's personal history, their view of the subject mathematics as well as their experiences during tertiary training and teaching practica is probed. Of these, their experiences as learners in school were found to be the most influential factor, both on their initial career choice and who they are as mathematics teachers.

Main findings of this study are firstly that personal histories and perceptions lead to different PMTI's and different retentions of what is taught at university; that PMTI is observed in interaction with the learners, and that the students' self-perceptions are not congruent with those aspects as actualised in the classroom. For example, all six espouse the theory of learner-centred classrooms, but only two of them truly put this theory into practice in their own teaching, thus demonstrating that espoused theory and theory in action are not necessarily the same. It was also found that the mathematics methodology modules completed by these students were unable to shake entrenched beliefs with which the students enrolled at university. Factors determining career choice were key to understanding PMTI, as were the beliefs with which these students began their tertiary training.

Key Words: Professional Mathematics Teacher Identity; Pre-service; Influencers; Actualisation; Teaching Practica.

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List of abbreviations

BEd – Bachelor of Education, a degree course offered at the University of Pretoria

DoE – Department of Education

FET - Further Education and Training

JPS – Professional Studies: a module that is taught in the BEd programme

OPV – Education: a module that is taught in the BEd programme.

PMTI - Professional Mathematics Teacher Identity

PTI - Professional Teacher Identity

SMTE - Department of Science, Mathematics and Technology Education

UP - University of Pretoria