

Enactment Pedagogies in Initial Teacher Mathematics Education

The problem of enactment describes a novice teacher's inability to translate effective theories of teaching into practice, and as a result they fail to produce effective classroom learning. It is common for pre-service teachers (PSTs) to experience this, which results in enactment of instructional practices that are inconsistent with their beliefs (Kennedy, 1999). My practice involves working with primary PSTs to develop their mathematical content knowledge (MCK) to support their classroom teaching. My concern, and motivation for this study, was my observation that PSTs did not enact their MCK in the classroom, despite having proven competence in the area.

The current study was part of a larger two-year Action Research (AR) project, in which each academic year represented a single cycle. The overarching aims were to understand the factors that contribute to the problem of enactment from the perspectives of PSTs enrolled in my content module (n=67) and make subsequent changes to my practice using Grossman and McDonald's (2008) Pedagogies of Enactment model as a pedagogical framework. A range of data was collected and analysed qualitatively and quantitatively.

The current study focuses on AR Cycle 1 and aims to answer the following research questions:

1. What lived experiences contribute to the problem enactment for PSTs?
2. What is the optimal design for a pedagogy of enactment, in the context of mathematics education, to reduce the problem of enactment for my PSTs?

For this part of the study, qualitative was gathered from PSTs using focus groups, and analysed using Braun & Clarke's (2006) thematic analysis.

The findings indicate a wide range of lived experiences that contribute to the problem of enactment. These include tensions between the knowledge and use of relational and instrumental mathematics for teaching, contextual factors related to mathematics instruction in ITE, and external factors related to pupils, co-operating teachers, and HEI tutors.

Data shows PSTs valued and benefited from enactment pedagogies and peer feedback opportunities which resulted in authentic reflection. Going beyond the confines of ITE, PSTs indicated a strong preference for further support to enact meaningful mathematics in the placement setting.

Finally, this study recommends that ITE departments invest in appropriate professional development for teacher educators and create professional and collaborative relationships with partner schools to improve PSTs' practical experiences.