UNPACKING REFLECTIVE PRACTICES AMONG MATHEMATICS TEACHER EDUCATORS: A PRELIMINARY STUDY

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BACKGROUNDS

Key ideas

Research on mathematics teacher educators (MTEs) has primarily focused on the knowledge they require and how it is developed (Chapman, 2021).

Reflective practice is increasingly recognized as a key mechanism for supporting MTEs' professional learning (Korthagen, 2016; Russell, 2018).

RESEARCH GAP

There is limited empirical evidence on how MTEs develop professional expertise in practice, how they engage in reflection, and the challenges or tensions they encounter in the process.

RESEARCH QUESTIONS

We examine the problems of practice identified by MTEs who participated in a self-instructional e-learning course aimed at developing inquiry into their teaching (Martínez & Montenegro, 2025).

We addressed the following question:

1. What types of problems of practice do MTEs identify in their teaching?
2. What aspects do they draw on when iteratively reflecting on a problem of practice?

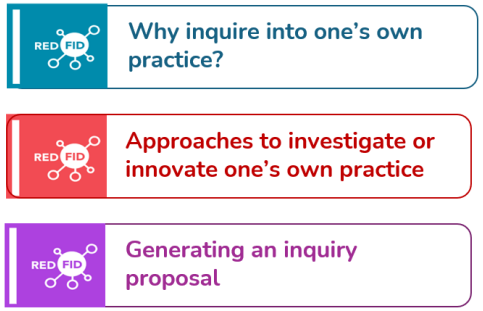
METHODS

This qualitative study adopted an ecological approach (Arcidiacono et al., 2009). Participants were 40 MTEs who completed a 20-hour online self-instructional course. 26 are females and 14 are males; ages of experience as a teacher educators varied from 1 to 35 years.

Qualitative data was collected through module-based activities in which participants identified and progressively refined a teaching problem.

For this study, both the original problem description (1st version) and the revised versions (2nd, 3rd, and 4th versions) were analyzed by content analysis (Elo & Kyngäs, 2008).

INQUIRY INTO TEACHING PRACTICE COURSE



The course consists of three modules that guide participants to identify a problem of practice, explore inquiry methods connected to their teaching, and design an inquiry plan with a clear focus, approach, and methodological strategies.

RQ1: What types of problems of practice do MTEs identify in their teaching?

We found two main areas where MTEs identify problems in their practice.

1. **Problems related to preservice teachers' difficulties,** including challenges in learning mathematical or pedagogical content knowledge (16 cases), and in learning how to teach mathematics (6 cases).
2. **Difficulties in MTEs' own teaching practices** (17 cases), particularly related to challenges in making certain teaching decisions.

KEY INSIGHTS

Participants describe their problems of practice in relational terms, ranging from connections among a few elements to more complex ones that reflect a more holistic view of the problem.

RQ2: What aspects do they draw on when iteratively reflecting on a problem of practice?

1) **In most cases,** the educators retain the core issue identified in their initial description. In other words, they continue to develop and refine it over time.

2) **In five cases,** although the MTEs retained the problem initially identified, the final version reflected a shift in the type or focus of the problem. We identify shifting from a focus on students' difficulties in learning mathematical knowledge or how to teach mathematics to the teacher educator's own challenges in teaching mathematics.

3) **Some teacher educators** demonstrated powerful insights as they came to recognize aspects of the problem that had not been initially apparent.

CONCLUDING REMARKS

- When MTEs engage in reflective practice to identify and refine problems of practice, two main areas of concern were identified: difficulties related to preservice teachers' learning, and challenges within MTEs' own teaching practices.
- The iterative analysis of the problems showed that most MTEs retained the core issue over time but progressively refined their understanding.
- Encouraging MTEs to revisit and reframe their problems supports a shift from intuitive reflection to more deliberate and systematic reflective practice.

KEY MESSAGE

Supporting MTEs in identifying, analyzing, and revisiting problems of practice is essential for improving mathematics teacher education.

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