

Core practices in mathematics teacher education

Grossman, Hammerness and Mc Donald (2009a) argue for a shift in teacher education, from a focus on what (pre-service) teachers need to know, towards work on *core practices*, namely those practices that are central in teaching and that pre-service teachers should learn to master in teacher education. Examples of core practices are “to elicit and respond on students’ reasoning” and “to evaluate students’ understanding”. The notion *practice* denotes here “something one does often and regularly”, in other words some routines in teaching.

In the past couple of years there has been a shift in research in mathematics education and in teacher education, from the focus on teacher competence to what (pre-service) teachers *do*, their tasks of teaching and teaching practices (Mosvold, Fauskanger, & Wæge, 2018). As Mosvold and colleagues discuss, this shift from teacher competence to mastering of core teaching practices is reflected also in the Norwegian national guidance for primary school teacher education.

Grossman and colleagues (2009b) compare work on core practices in different professional educations and identify three approaches that are important for students’ learning:

- *Representation of practices* in different ways to make them visible for novices, such as observations, use of video recordings or transcriptions, episodes from practice field;
- *Decomposition of practices* to emphasize their main elements, making them easier for students to learn and for teachers to teach; and
- *Approximation of practices*, that is, work with practices in a such a way that the complexity is reduced compared with “real life”, but still gives opportunities to learn

An example of an approximation of practices in mathematics teacher education is a *cycle of enactment and investigation* proposed by Lampert et al. (2013, p.229):

- 1) Observation of a teacher educator’s enactment of a particular IA
- 2) Collective analysis of the observed enactment
- 3) Preparation to teach the IA to a group of students
- 4) Rehearsal of the IA by novice teachers
- 5) Enactment of the IA with a group of students
- 6) Guided collective analysis of the enactment



The project group works on adaption and integration of the cycle of enactment and investigation in the course Mathematics 1, 1-7, in addition to research on different aspects on work with the cycle such as pre-service teachers' opportunities to learn in various parts of the cycle. Further on, the project group works on development of and research on other approaches in mathematics teacher education for supporting pre-service teachers' development of important teaching practices. The identification and analyses of aspects that can support or hinder pre-service teachers' learning across different contexts in teacher education (e.g. mathematics courses, field placements) is an important part of the work.

References

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