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The impact of a teacher professional development program in formative assessment on teachers’ practice
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Introduction and aim
Several studies have demonstrated that substantial learning gains are possible when teachers introduce formative assessment into their classroom practice (e.g. Black & William, 1998; Hattie, 2009). However a strong research base supporting how to effectively help teachers implement a formative assessment practice is lacking (Schneider & Randel, 2010; Wiliam, 2010). The overall aim of this research study is to contribute to the understanding of which factors that are significant in the support of implementation of effective formative assessment. Another aim is to evaluate to what extent the professional development program (PDP) can be used to help teachers develop their formative assessment practice and enhance student performance.

The framework of Formative Assessment
This research project uses a framework of formative assessment in the design of a PDP for mathematics teachers and analysis of teachers’ practices.

Effective formative assessment can be conceptualized as practice based on an adherence to the “big idea” of using evidence about student learning to adjust instruction to better meet student needs, and a competent use of the following five key strategies (Wiliam & Thompson, 2007):

1. clarifying, sharing and understanding learning intentions and criteria for success
2. engineering effective classroom discussions, questions, and tasks that elicit evidence of learning.
3. providing feedback that moves learners forward
4. activating students as the owners of their own learning
5. activating students as instructional resources for one another.

The Professional Development Program
The professional development program (PDP) was developed in a partnership between Umeå university and a municipality. It offered theory about formative assessment, techniques to use and time for discussion. During the meetings the teachers together planned the implementation, shared experiences and discussed opportunities to develop their formative practices. The teachers had 120 hours at the University with the research project leader and the other teachers during spring 2011. The teachers had the same amount of time to individually read and plan how to make use of techniques in their classroom practice.

Methods
22 randomly selected teachers teaching grade 4 took part in this PDP in Spring 2011, and constitute the intervention group. The rest of the teachers teaching the same grade in the municipality constitute the control group of 27 teachers.

To investigate change in teachers’ practice (due to PDP), each teacher was interviewed and their classroom practice was unannounced observed before the PDP and during the school year after the PDP. In addition, the teachers answered two evaluation questionnaires, one directly after the PDP and one a year after.

Increase in student achievement in mathematics was measured by using a pre-test (August 2011) and a post-test (spring 2012). These tests measured ordinary curriculum knowledge of mathematics for the grade. Teachers external to the project marked the tests.

Further Research
Classes from the intervention group will be studied further from a student perspective.

References

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