But Does It Work? A Review of Teacher Professional Development on Formative Assessment

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Introduction

Formative assessment (FA), which involves teachers using evaluative skills and strategies to guide and improve student learning through timely feedback, is akin to program evaluators offering recommendations for improvement (Ayala & Brandon, 2008), and assists teachers in planning and implementing instructional activities (McGatha, Bush, & Rakes, 2009). This tool for educational reform has become increasingly more common in PreK-12 schools as a means for teachers to improve their instruction, especially since research has reported that FA can promote students' learning and increase their achievement (e.g., Black & Wiliam, 1998). However, a closer scrutiny of FA has asserted that approaches to its implementation and evaluation vary, and that the terminology used is not consistent (Bennett, 2011; Dunn & Mulvenon, 2009). This raises the following questions: How are teachers prepared or trained to use FA, and what terminology and practices are they being taught to use in their classrooms? More importantly, does professional development on FA work, and how is this determination made?

Methods

A literature review on FA was conducted, with a particular focus on studies examining professional development on FA in K-12 schools. A total of 25 of these studies were identified, and based on other FA literature, were closely examined for the following: a) the researchers' definition of formative assessment; b) how formative assessment was operationalized and delivered through in-service teacher professional development; c) the context in which this professional development took place; d) how teachers' implementation of these strategies was evaluated; and e) the outcomes of each study.

Findings

A summary of the findings of the literature review is presented below.

Definitions of formative assessment.

❖ Also called "assessment for learning" or "assessment to assist learning."
❖ Definitions varied from study to study.
❖ Common elements:
  ❖ Process used by teachers and students;
  ❖ Creation of and adherence to learning goals; and
  ❖ Using evidence to drive instruction/performance to achieve learning goals.

Operationalization of formative assessment for professional development.

❖ Varied from study to study.
❖ Common elements:
  ❖ Setting and making explicit clear learning goals;
  ❖ Use of questioning and feedback from teachers and students;
  ❖ Data collection, analysis, and use;
  ❖ Teacher revision/modification of instruction;
  ❖ Development of student academic autonomy; and
  ❖ Evaluation to determine if gap between learning goals and current performance exists.

Context of formative assessment professional development.

❖ 16 of the 25 studies were done in the United States. The other 9 took place in the United Kingdom (UK, 5); New Zealand (2); Israel; and Portugal.
❖ At least 15 study sites were involved in ongoing FA support and/or assessment support; UK and New Zealand have national cultures of formative assessment.
❖ 9 studies targeted science teachers; 7 targeted teachers of mathematics.
❖ 11 studies specific to the elementary level; 8 studies focused in middle/high schools.

Evaluation of teachers' implementation of formative assessment strategies.

❖ Quantitative methods included: student/teacher content assessments; questionnaires; existing assessments (such as standardized tests); measures of teachers' FA practice; and measures of teachers' efficacy.

❖ Qualitative methods included: document analysis (e.g., samples of student work, teachers' lesson plans); case studies; interviews; classroom observations; staff meeting observations; and teacher reflective journals on their pedagogy and use of FA strategies.

Outcomes of studies of professional development on formative assessment.

❖ Inconsistent findings across literature; affected by methods and context.
❖ Qualitative research suggests improvements in teaching and student learning.
❖ Quantitative research at times statistically significant in better performance after FA professional development, but with low/moderate effect sizes, if reported at all.
❖ Practical significance of professional development on FA in K-12 schools seems plausible.

Conclusion

Research on teacher professional development on formative assessment is promising overall, but educational evaluators should be mindful of the many ways in which FA has been defined, operationalized, and examined. Ultimately, FA practices are context-specific and unique to the environments in which they take place. A knowledge of common understandings of FA as presented through teacher professional development can shed light on how FA-oriented and other related interventions at schools take place, and can facilitate appropriate evaluation of these programs.

Selected References

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