Make subject matter count

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Some years ago, Lee Shulman (1986) suggested that research on teaching had overlooked subject matter, the content of instruction.

Shulman argued that research on teaching had become dominated by behaviorist conceptions that stressed generic teaching skills. Such work had contributed much useful knowledge around such topics as classroom management, cooperative learning, the direct instructional model, teacher expectations, and "time on task" (to name a few then-prominent topics), but something obvious was missing.

Shulman suggested that teachers had to acquire a distinctive kind of knowledge about their subject matter. He called this "pedagogical content knowledge" or knowledge of how to teach a subject and how to tap students’ thinking about subject matter as the basis for continued teaching.

About the same time, Judith W. Little reported that teacher professional development in California emphasized packaged programs on generic methods of classroom organization and instruction, independent of subject area (Little, 1989). This was on the wane, she found. But, in later work, she argued that there was a lack of fit between many of the lead ideas in educational reform and the learning opportunities afforded to teachers (Little, 1993).

Finally, a variety of authoritative sources, including the U.S. Department of Education and the National Staff Development Council itself identified principles or standards for exemplary professional development. These tend to emphasize, although not exclusively, what might be termed structural and process features of professional development. For example, "Professional development should be primarily school-based and built into the day-to-day work of teaching;" "professional development should be continuous and on-going, involving follow up and support for further learning— including support from sources external to the school that can provide necessary resources and new perspectives" (National Partnership for Excellence and Accountability’s, September 1998).

Principles of this kind abound in the literature and are surely correct; indeed, they can hardly be argued with. But I believe the content of professional development must receive much greater attention than it yet has in the research and policy literature.

The concern for linking teacher learning with improvements in student learning is what recommends an emphasis on content. One difficulty with the prescriptions for effective professional development is their lack of grounding in evidence of impact on student learning. If schools, districts, and states increase resources for teacher professional development, then those investments must be tied as powerfully as possible to improvements in student learning. This connection will be most successful by focusing on the content of teacher learning in relation to the curriculum of student learning.

This is an hypothesis (as are all other contentions on this subject), that enjoys some modest empirical support. In a review of research that contain evidence of the effects of teacher inservice education on student learning, Kennedy (1998, April) found the greatest effects occurred when teachers were engaged with knowledge that was directly relevant to what students were learning. Kennedy identified the Cognitively-Guided Instruction
project as yielding the greatest effects (see Carpenter, et al., 1996; Fennema, et al., 1996; and Franke, et al., 1998). In this work, teachers learn how children learn addition, with an emphasis on the typical misconceptions and difficulties of teaching addition. Then, teachers work on altering their pedagogy to assist students in overcoming the learning difficulties posed by this class of mathematical operation.

Cohen and Hill (in preparation) also provide another piece of evidence of the relationship between characteristics of state-sponsored staff development, teachers’ learning opportunities, and student achievement. They found a link between student achievement and teacher attendance at workshops and other experiences that engage them in learning about the specific topics of the student curriculum in conjunction with new curriculum frameworks and state assessments. Structural features such as number and duration of workshops attended and classroom follow-up also was influential, but Cohen and Hill argue that the content of the workshops is the decisive factor.

These shreds of evidence suggest several specific hypotheses. To maximize the impact of teacher professional development on student learning:

* Engage teachers simultaneously in learning about the subject matter itself, teaching of the subject matter as an intellectual and scholarly endeavor in its own right, and ways that students learn the subject.

* Ground the content of professional development, in part at least, in the content of the student curriculum, in order to establish a direct link between teacher and student learning.

* Attend to the specificity of teacher learning as it applies to the concepts, ideas, topics, and skills required of students. Engage teachers in intellectual work around these building blocks of the student curriculum at relatively specific levels of concentration.

The simplicity of this idea is deceptive, however, for its consequences would be quite complex. It would require new ways of organizing teacher learning to bring relevant expertise to bear. It would require greater focus while leaving ample room for teachers to shape the agenda. It would require incentives in the policy system to promote this emphasis. And it would require specific linkages between such professional development and related elements of systemic reform, including curriculum frameworks, instructional materials, and student assessments. In particular, this emphasis would organize professional development around communities of teachers, within or across schools, whom are working in similar areas of the curriculum, rather than purveying generic staff development. And, it would link university expertise to K-12 schools. Sharing knowledge between university and school would become grounded more directly in the specific content of the student curriculum.

In attending to the structural and process characteristics of formal professional development, we have overlooked the importance of the content, particularly if the criterion for judging the effectiveness of staff development is its impact on student learning. Exemplary work has begun to emerge in this vein, but it still remains relatively isolated and unconnected to the policy and organizational environment that directs teacher learning. One important line of work for the future, I propose, will be to explore this hypothesis and its correlates. Making the subject matter count is the message for the future.

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References


