



MSP-MAP II: Teacher Motivation in Professional Development

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Teacher professional development (PD) is an essential feature of instructional interventions in general, and for the improvement of students' math and science learning and achievement in particular. The more motivated teachers are to participate and engage in PD, the more likely they will profit from the experience and enact the approaches, content and skills that PD promotes, increasing the likelihood of desirable student outcomes. Informed by theory and empirical evidence from work on student and teacher motivation, and informed by a model of teacher motivation to participate in PD (PDM), a national study of teachers ($N = 552$) was conducted that examined PDM, teachers' experiences in and rated benefit of PD, and how these were associated with PD characteristics, teacher and contextual factors.

About MSP-MAP II

MSP-MAP II is designed to systematically apply current knowledge of teacher motivation to the domain of teacher PD. This involves specifying the motivation-related factors that determine *whether* teachers will participate in PD and the motivational *consequences* of that participation. It also necessitates creating and modifying assessment tools to operationalize these constructs. In its role as a RETA, MSP-MAP II will directly support the work of MSPs with methodologically rigorous cross-site studies of teacher motivation and its influence on student achievement. Specific goals are to:

- Develop a knowledge base of theory, research, and assessment of teacher motivation and the PD process that MSPs can use in the design and evaluation of their interventions
- Create a suite of reliable motivation assessment tools, validated with teacher populations and in PD contexts, for MSPs to include for purposes of PD design and formative and summative evaluation
- Collaborate with MSPs to test and refine features of a proposed model of motivation and teacher PD with a goal of explaining impacts of MSP activities, and PD more broadly, on teacher learning and student achievement
- Facilitate the incorporation of the model and motivation-related PD assessment tools into existing and future MSP logic models and evaluation designs
- Disseminate the motivation and PD model and assessment tools to the broader teaching and research community

Are Teachers Motivated for PD?

In general, PD participation

- Was a common experience, with 77% of the sample participating in the previous year (p. 16)*
- Was a positive experience (p. 17)
- Was perceived as useful for increasing teacher effectiveness (p. 18)
- Made teachers more motivated to participate in PD in the future (p. 18)

In general, teachers were positively motivated to participate in PD

- Teachers with higher motivation for PD (PDM) were more likely to participate across all areas of PD content (p. 23)

Work In Progress

The impact of teachers' efficacy beliefs have taken center stage to the relative neglect of the value they ascribe to what they teach. Accordingly, we examined math teachers' beliefs about the value they attached to math both personally and for their students. Math teachers participating in a yearlong professional development program from 14 urban middle and high schools completed surveys in Fall and the following Spring. Teachers with more preparation in mathematics had higher expectancies and values for math. Findings suggest that a focus on teachers' value judgments may indeed be an important addition to the extensive literature on the role of teachers' self-efficacy beliefs.

RQ 1) Does motivation for math differ among teachers?

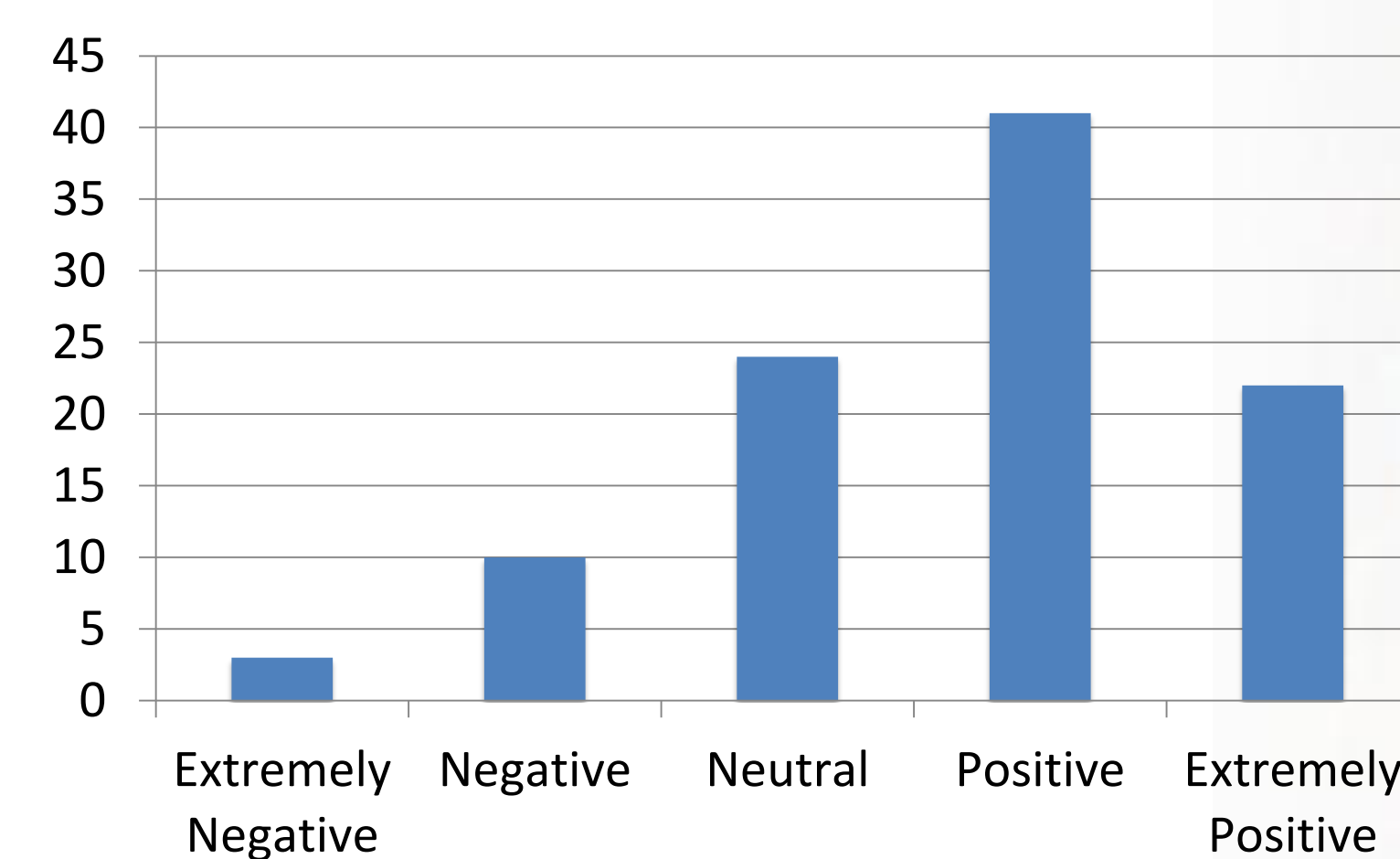
- Middle school teachers reported higher personal value for math and perceived value of math for students, as compared with high school teachers
- Single-subject math teachers reported higher efficacy for teaching math, compared with those trained to teach multiple subjects

RQ 2) Do teachers' motivational beliefs impact their classrooms' attitudes towards math?

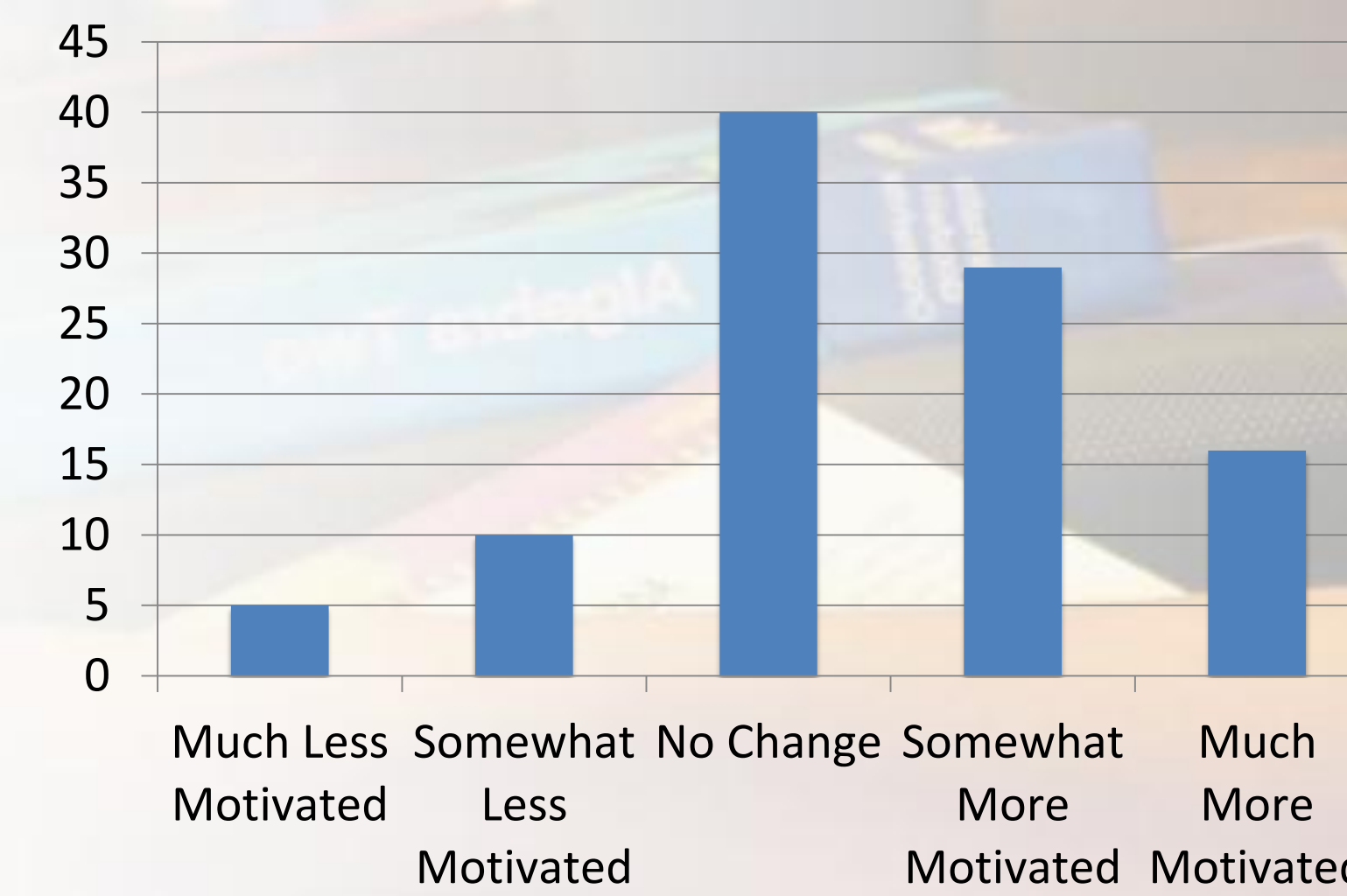
Students' expectancy (Can I do it?) and value (Is it worth it?) for math were predicted by the following

- Teachers' perceived efficacy for teaching math
 - (e.g., "help students master difficult concepts in mathematics")
- Teachers' personal value for math
 - (e.g., "it is useful for me to improve my math skills")
- Teachers' value of math for their students
 - (e.g., "students need to have good math problem-solving skills to be successful in the future")

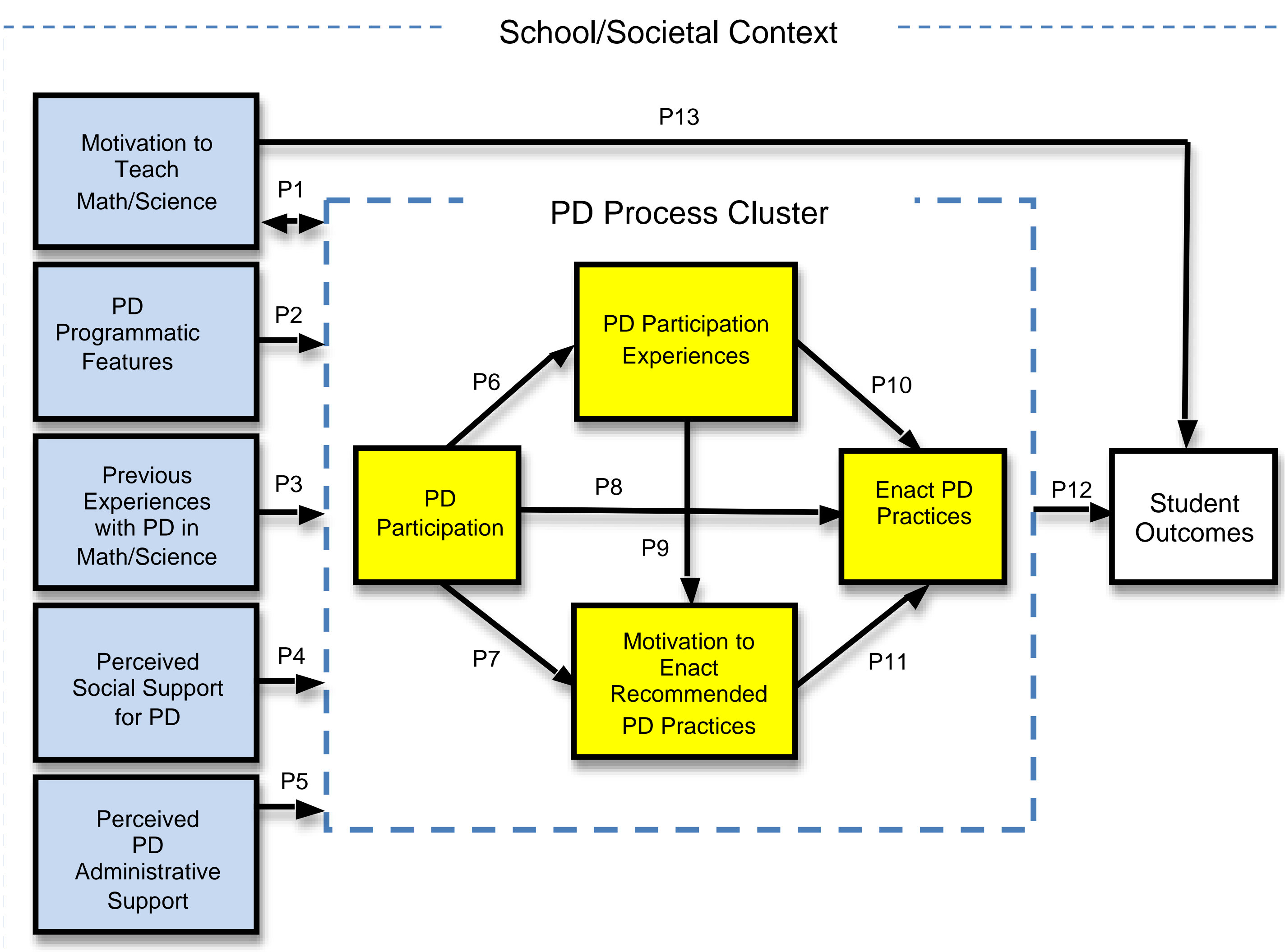
Teachers' Rated Experiences with PD (Fig. 4)



Effects of Current PD Participation on Subsequent PDM (Fig. 5)



PD Motivation Process Model



What Influences PDM?

Teachers who participated in PD indicated that PD helped them to

- Improve students' competence in the subject areas they taught
- Improve students' motivation to understand the material in-depth
- Increase students' value of the material taught (table 5, p. 22)

Teachers involved in PD generally agreed that PD

- Increased students' motivation to seek help when needed
- Increased students' interest in the subject taught
- Increased students' beliefs in the utility of the subject taught
- Increased students' motivation to do homework
- Makes lessons more engaging to students (table 5, p. 22)

PDM was higher when

- PD content was about learning, achievement, and making lessons more engaging (p. 23)
- Teachers received a stipend or continuing education credits (p. 20)
- PD fulfilled licensing requirements or enhanced their job security (p. 20)
- PD was presented as a series of workshops (p. 21)
- Principal relations and collegial leadership were positive (table 9, p. 25)

For More Information

Schieb, L. J., & Karabenick, S. A. (2011). Motivation and Teacher Professional Development: A Guide to Resources. Math and Science Partnership – Motivation Assessment Program, University of Michigan, Ann Arbor, MI.

Karabenick, S. A., & Conley, A. (2011). Teacher Motivation for Professional Development. Math and Science Partnership - Motivation Assessment Program, University of Michigan, Ann Arbor, MI.

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* All page citations refer to *Teacher Motivation for Professional Development* (Karabenick & Conley, 2011)